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Edited by

FRANCIS HEMMING, C.M.G., C.B.E.
Secretary to the International Commission on Zoological Nomenclature

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

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CASE NO. 2

DOCUMENTS RELATING TO THE QUESTION WHETHER "NEOTYPES" SHOULD BE RECOGNISED IN THE "RÈGLES" AS A CATEGORY OF TYPE SPECIMENS

DOCUMENT 2/1

Origin of the Present Investigation

Editorial Note.—The present investigation into the question whether "neotypes" should be recognised in the *Règles* as a category of type specimen was undertaken in response to an invitation given in July 1948 when the International Commission on Zoological Nomenclature at its Paris Session had under consideration a suggestion received from Dr. Don L. Frizzell and Dr. Harry Wheeler on the subject of the recognition of neotypes (see Document 2/2 below). The Commission then agreed (see 1950, *Bull. zool. Nomencl.* **4** : 192) :—

"(*a*) that the proposal to recognise the category 'neotype' raised complex problems which required much closer and more detailed study than had yet been given to them ;

" (*b*) that, if the Congress were to be recommended to recognise the category ' neotype,' it would be essential that the proposals so submitted should be comprehensive in character and should contain adequate safeguards against the abuse of the new provision by mercenary or irresponsible persons ;

" (*c*) that, in view both of the intrinsic difficulties involved in the proposed recognition of the category ' neotype ' and of the wide differences of opinion on the subject which at present existed among zoologists, it was essential that further discussions should be held with interested groups of specialists before the Commission submitted any recommendations to the Congress for the amendment of the *Règles* to deal with this subject."

2. The Commission further agreed to recommend (1950, *ibid.* **4** : 192-193) " that the Secretary to the Commission should be invited to make a thorough study, in conjunction with interested specialists, of the problems involved in the proposal that the category ' neotype ' should be recognised in the *Règles* and to submit a Report thereon, with recommendations, for consideration by the Commission at their meeting to be held during the next (XIVth) meeting of the Congress, with a view to the submission by the Commission of a considered statement of their views on this subject and, if they decided in favour of recommending that the foregoing category of type specimen should be recognised in the *Règles*, of a comprehensive scheme to that end."

3. The foregoing recommendation, with other recommendations, was submitted to, and approved by, the Section on Nomenclature of the Thirteenth International Congress of Zoology at its Second Meeting held on 24th July 1948 (1950, *Bull. zool. Nomencl.* **5** : 71, 76).

DOCUMENT 2/2

General Consultation With Specialists and Issue of an Appeal for Advice in 1952

Editorial Note.—Attention is drawn to the review prepared by the Secretary to the International Commission on Zoological Nomenclature of the problems involved in the question whether the category " neotype " should be recognised in the *Règles* as a category of type specimen which was published in March 1952 (*Bull. zool. Nomencl.* **7** : 131-147). This review contained an appeal to specialists to assist in the present investigation by furnishing statements of their views on the action which it was desirable should be taken. It was in response to this appeal that the majority of the documents now submitted was furnished.

DOCUMENT 2/3

The question whether " neotypes " should be recognised as a category of type specimen was first brought before the International Commission on Zoological Nomenclature by DON L. FRIZZELL and HARRY E. WHEELER in a paper entitled " On the Question of recognising ' Neotypes '." This paper was published in August 1945 (*Bull. zool. Nomencl.* **1** : 106-108).

The stand taken in the above paper is shown by the following extracts therefrom :—

> In a case in which the original types of a species " A " are lost or otherwise unavailable, and in which two or more species—all fitting the description of species " A "—occur at the type locality, can the identity of species " A " be established by the designation of one or more neotypes ? . . . If the designation of " neotypes " is not accepted, how is the identity of species " A " to be determined ? The following case is submitted to the Commission in the hope of obtaining a ruling on the validity of the term " neotype " and the principle involved, rather than merely to solve the specific problem offered by the following example. . . .
>
> If the holotype of a composite species such as . . . were in existence, there would be no doubt that it would represent the species to which the original name must be attributed. When the original types are completely unavailable, however, the reviser must select arbitrarily the species to bear the name. If at the same time he can designate a " neotype " (or " neotypes," if " neoholotype " and " neoparatype " can be admitted) which will be accepted by the Commission as they now accept holotypes, such procedure will certainly tend to stabilise nomenclature and prevent some of the shuffling about of names which is common at present.

DOCUMENT 2/4

In a paper published at the same time as that by Frizzell and Wheeler, FRANCIS HEMMING, Secretary to the International Commission on Zoological Nomenclature, drew attention to certain abuses which might arise if the " neotype " concept were to be incorporated into the *Règles*, unless at the same time stringent safeguards were laid down (Hemming, 1945, *Bull. zool. Nomencl.* **1** : 108-111).

DOCUMENT 2/5

By H. S. BARBER

(*United States Department of Agriculture, Agricultural Research Organisation Bureau of Entomology and Plant Quarantine, Washington, D.C., U.S.A.*)

Letter dated 23rd June 1947

The enclosed article* was written before I saw your discussion of " neotypes " in your *Bulletin of Zoological Nomenclature* (Vol. 1, No. 5, p. 108 (Z.N.(S.)24)).

I protest that :—

(1) The neotype question is one of taxonomic practice and not one of nomenclature.

(2) Questions of nomenclature begin and end in such published literature as complies with the Code.

(3) Zoological questions are problems for taxonomic research and are as yet not covered by rules authorised by the International Congresses.

(4) Since type specimens can never be published (although they are recorded in publications) they are not nomenclatural (as in 2) but are subjects of zoological research (as in 3).

(5) Neotypes are proposed by zoological analysts for consideration by their colleagues and successors. These colleagues and successors will evaluate their significance as they do other units of evidence bearing on identification of named kinds.

(6) Your Commission has no jurisdiction over processes of zoological analysis, including neotype establishment, but may rule on validity of published nomenclature.

(7) As example of neotype proposal for solution of a problem of zoological identity I would cite and here include part of my published discussion (*Proc. ent. Soc. Wash.* **49** : 155, 157) as follows :—

> " Believing the original Fabrician type of *Crioceris vittata* from Carolina, in the collection of a Mr. Monson, has been lost, I designate as neoholotype and neoparatypes 90 specimens collected on squash, 18th April 1938, at Charleston, S.C., by W. J. Reid, preserved in the United States National Museum. This locality is, most likely, the one from which the original type was obtained. No other Carolinian species in my experience seems to agree so well with the original description. Such confusion has resulted from the brief statement by Lever, 1930, that the type of *Cistela melanocephala* F., 1775, is the species we have called *vittata*, that my action above indicated seems required. If, however, the authentic holotype of *vittata* can be produced and shown to be other than the species here indicated, this action will fall. Lever was not the first reviser.

*The paper here referred to, of which a separate was enclosed with Dr. Barber's letter, is a paper entitled " Science and Legality " published in April 1950 in the *Nautilus* (Vol. **63** (No. 4) : 128-130).

Fabricius himself in 1792 chose *vittata* instead of *melanocephala* as the name for this pest, and page priority claimed by Lever is not here applicable. His choice of the name *vittata* happens to comply with Article 35 of our present Code whereas resurrection of *melanocephala* violates Article 36."

DOCUMENT 2/6

By the late LODOVICO DI CAPORIACCO
(*University of Parma, Italy*)

Extract from an enclosure to a letter dated 31st December 1947

Nomina dubia are undoubtedly an evil for taxonomy, but nevertheless, if neotypes are to be recognised, great care will need to be taken. For, in addition to providing measures to guard against the dangers listed by Mr. Hemming in points (1), (2) and (3) of his paper (1945, *Bull. zool. Nomencl.* **1** : 108-111)*, with which I fully agree, it will be necessary to prevent the acceptance of neotypes from fostering the tendency to consider that type specimens and not descriptions as the base of taxonomy. Such a development would be an evil worse even than *nomina dubia*. It is essential that descriptions should be drawn up in such a way that they are sufficient to permit the recognition of the species described without examining the example (or examples) upon which the description was made, if taxonomists are to be scientists and not merely workers on collections.

In the case of Arachnid species, the designation of neotypes in cases where the type specimens are lost and the descriptions are insufficient for the purposes of recognition, would, I consider, give rise to more trouble than uniformity.

DOCUMENT 2/7

By HORACE H. BAKER
(*University of Pennsylvania, Zoological Laboratory, Philadelphia, Pennsylvania, U.S.A.*)

Extract from a letter dated 22nd July 1950

A " neotype " is a handy standard of reference, but should not be given legal status, because the fundamental principles of the international rules are : (1) The law of priority. (2) Publication. This accent on publication is very important because the printed page never changes, while the care (labels and rearrangements) of museum specimens varies greatly with the individual curator, and, since inflation has embarrassed most museums financially, may become worse instead of better. The Commission should be careful not to discourage careful study in favor of artificiality; e.g., *Opinion* 78 was a ridiculous decision. Such artificiality is the reason why the majority of non-taxonomic zoologists ridicule the International Rules.

The present Commission is doing an excellent job in its suspension of the Rules in certain cases. Such actions are in delightful contrast to the reticence of earlier Commissions in the use of these powers.

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*See Document 2/4.

DOCUMENT 2/8

By G. H. E. HOPKINS, O.B.E., M.A.
(*British Museum (Natural History), Zoological Museum, Tring, Herts, England*)

Letter dated 8th April 1952

I have just been reading, with considerable interest, your article on the neotype question in *Trans. Soc. Brit. Ent.* As Miss Theresa Clay and I have erected quite a lot of neotypes, I think it is up to me to make some comments :—

(i) In Mallophaga neotypes are absolutely essential if we are to attempt to use the older names. Something like 80 per cent. of the types of the species described before 1880 are lost and we are finding more and more instances in which two species which are indistinguishable by means of the old descriptions occur on the same host. Moreover, a large proportion of the older names refer to a complex of several species, and there is no method under the present Rules by which a type host (or locality) can be fixed other than selection of a lectotype ; this cannot be done if the type material is lost, and the only possible way is to erect a neotype.

(ii) I entirely agree with your suggestions (a) that neotypes must be placed in a public museum or other similar institution where they are accessible, (b) should be adequately (what a large question that word begs—and " fully " is worse !) described and illustrated in the paper in which they are proposed, (c) that a paratype should have preference *other things being equal.* But quite often other things may not be equal—it is sometimes possible to state with certainty that a specimen is not from the supposed host, and it would obviously be wrong to make such a specimen a neotype if it can be avoided. Syntypes surely do not come into this question of preference, though you mention them, for if syntypes exist a lectotype can be selected and a neotype is unnecessary.

(iii) Obviously it is desirable that a neotype should also be a topotype, but I am strongly against this provision being made too rigid. Wrong host-records are infinitely more frequent in parasitic insects (Mallophaga in particular) than wrong localities among free-living insects ; you will realize that this is inevitable when a huge proportion of species were described from material obtained either from skins in museums or from captive hosts, in zoos. I would suggest that the neotype should be a topotype unless there is reason to believe that the original locality or host is erroneous, but even this should not be mandatory, because (as you say) the condition might make erection of a neotype impossible. In any case, what *exactly* is a topotype ? Often nowadays an author gives the type-locality almost to a yard—a specimen caught at the exact spot is obviously a topotype, but what of one caught 100 yards away, or 400 yards, half a mile, 2 miles, 10 miles . . . ? And parasites very rarely pay any heed to the subspecies of their hosts, but occasionally they do.

(iv) I am most strongly of the opinion that authors (even Miss Clay and myself!) should not be allowed the final word in this matter. One author (I am sure you will guess his name!) has already made one neotype which is not congeneric with the original material; obviously he was misled by an erroneous bit of nineteenth century synonymy and never looked at the drawing published as part of the original description, which is poor but recognizable. I suggest that authors should erect provisional neotypes and that these (after receiving the same sort of publicity as is given to proposals to suspend the Rules) should be confirmed (or disallowed) by the Commission; during the interval they would have provisional validity. Applications to the Commission for confirmation of provisional neotypes should not be confined to the author who erects them.

(v) It is, I think, absolutely essential that, once the Commission has recognized a neotype, that fact should entirely and permanently deprive the original type-material of any status.

(vi) The problem of whether neotypes should go to the museum which once possessed the original material is complicated. Miss Clay and I, for instance, have already transgressed badly against this suggestion. The reason is quite simple: the majority of the species we have dealt with either never were in any museum as far as is known or were at Halle. Now Halle is behind the curtain, and to send specimens there would mean that they would be utterly inaccessible to any western student of the lice. Moreoever, is it very useful to have the types of a few species in some museum where there is only a tiny collection of the group and nobody working on it? This would often be the case.

DOCUMENT 2/9

By L. B. HOLTHUIS

(*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*)

Letter dated 15th April 1952

Neotypes

Your paper (1952, *Bull. zool. Nomencl.* 7 (5/6) : 131-147) has been read with great interest. I can assure you that I am greatly in favour of the recognition of neotypes, of course under adequate safeguards against abuse of them. Perhaps I may make the following remarks :—

(1) Your paragraph **10**, p. 136. It has always been a nuisance to zoologists who had to examine type specimens, that such types generally are scattered over a large number of museums. In this way much time is lost which could have been spent more profitably in the examination of material. Even a concentration of type specimens in a restricted number of institutions is impossible, not the least because of institutional pride ; the ideal of one type museum, apart from severe practical disadvantages, is of course unattainable. With neotypes the Commission indeed possesses the means to restrict the number of institutions in which the types may be stored. I would advocate that the utmost use should be made of this power by limiting the number of Museums in which neotypes may be stored to the minimum. Would it not be possible to make it a general principle that each country should have only one neotype-museum, and that this principle should be abandoned only in very special cases ? This would greatly serve visiting foreign scientists.

(2) Your paragraph **24**, p. 145. It seems best to me to use the name " unofficial neotypes " for those neotypes established before the official scheme concerning neotypes comes into action. The word " neotypes " or " official neotypes " may be used for the other neotypes. Unofficial neotypes should have no standing, I think, and scientists having established unofficial neotypes or being aware of the existence of such unofficial neotypes in their speciality should be urged to take as soon as possible the necessary steps to let these unofficial neotypes become official neotypes.

DOCUMENT 2/10

VIEWS OF SEVEN WORKERS IN SYSTEMATIC ENTOMOLOGY IN THE MUSEUM OF COMPARATIVE ZOOLOGY AND THE BIOLOGICAL LABORATORIES, HARVARD UNIVERSITY, CAMBRIDGE, MASSACHUSETTS, U.S.A.

Enclosure to a letter dated 28th April 1952, from Dr. JOS. BEQUAERT

In answer to your appeal for advice " on the question whether ' neotypes ' should be recognised in the *Règles* as a category of type specimen " : Z.N.(S.) 358 :—

(1) The undersigned are opposed to the insertion in the *Règles* of any provision making it compulsory to observe neotypes as a category of type specimen.

(2) It is felt that the chances for both conscious and unconscious abuse of a compulsory neotype category are so great as to render legitimisation of neotypes under the *Règles* very dangerous to systematics.

(3) We approve insertion in the *Règles* of a provision expressly denying the right of any worker to designate a neotype, binding upon other workers as a typical specimen.

JOS. BEQUAERT
P. J. DARLINGTON, Jr.
E. O. WILSON
PHILLIP A. ADAMS
F. M. CARPENTER
WILLIAM L. BROWN, Jr.
F. Y. CHENG

Workers in systematic entomology in the Museum of Comparative Zoology and the Biological Laboratories, Harvard University.

DOCUMENT 2/11

By D. K. McE. KEVAN

(*School of Agriculture, Zoology Section, University of Nottingham, Sutton Bonington, Loughborough, England*)

(1) Enclosure to a letter dated 29th April 1952

Comments on the problem of neotypes discussed in Part 5 of Volume 7 of the *Bulletin of Zoological Nomenclature*

I am fully in favour of the recognition of neotypes providing sufficient safeguards to prevent their abuse be provided.

Para. **11**

In cases where an adequate description and/or figures exist already for type specimens which have been lost, I am of the opinion that a statement to the effect that a proposed neotype agrees fully with the description and/or illustration of the original type should be deemed equivalent to a description and figure of the neotype. In cases where only minute details differ, I consider that it should be sufficient to point these out. I agree that a complete re-description and re-illustration should be recommended, but I do not think it should be a rule. It might be that the original description or figures are inadequate, but it is equally likely that re-description and re-illustration would be redundant.

Two difficulties arise. Firstly it would be difficult to pre-judge what should be considered an adequate description or illustration and secondly, if re-illustration were to be ruled necessary for the recognition of a neotype, what would constitute an illustration ? Would it in the latter case have to be stated that it was indeed a figure of the neotype (or part of it) itself or would it be sufficient to illustrate the species to which the neotype belonged when designating the neotype. Would a figure need to show the whole animal, or, if only a part, how would one qualify the type of illustration acceptable ? Clearly one could not insist on the whole animal since this is sometimes not known (especially in fossils), but an illustration of a single scale or a bunch of bristles might be quite inadequate by itself although satisfactory if taken in conjunction with previously published figures of the original type or other material.

Para. **15**

I favour alternative (*b*) since a rediscovered holotype or syntype may be clearly shown to belong to a species other than that to which the neotype belongs.

Para. **16**

To *Bull. zool. Nomencl.* could we not add " or some other specified publications " ? I feel that there would be reluctance on the part of many authors, having designated a neotype in one journal, to write a further paper, perhaps stating his reasons again, for the *Bulletin*.

Para. **24**

I suggest that all unofficial neotypes designated prior to any rule coming into effect should automatically be recognised, providing holotypes and syntypes

shown to belong to a different species from the neotype in question are not known to be in existence. If any specialist wishes to have the recognition of any neotype rejected for any other reason than that holotypes and/or syntypes are discovered and shown to belong to a different species, he should make application to the Commission for the purpose.

It should be recommended that all established unofficial neotypes should be brought to the notice of the Commission for consideration and placing upon an *Official List*, but failure to bring forward for recognition any neotype designated before the rules governing neotype designation should not render such designations invalid.

I suggest also that to distinguish unofficial neotypes from official ones, no irritating serial number is required, but merely the date (in brackets) when the unofficial neotype was designated. An official neotype would require no date and an unofficial neotype admitted to the list would automatically be excused from carrying a date thereafter. Unofficial neotypes designated subsequent to the rules governing neotypes would be invalid. Only one neotype should be permitted. An official neotype would take precedence over any unofficial one.

In addition to the above notes I should like to suggest that it should be possible to designate neotypes for species which have been described or figured but not named until a later date (by another author). In such cases there never has been a type specimen, e.g. the Acridid, *Tenuitarsus angustus* (Blanch.) was figured by Savigny (1825 ?) but was not given a name until Blanchard did so in 1836, calling it *Ommexecha angustum*. This species thus never had a type—even if the specimen figured by Savigny were in existence (which it is not). Something similar may be found to be the case with animals invalidly described (either before or after 1758) and later given a valid name. The material used by the original describer cannot be considered the type of the valid species unless it was actually seen* by the author who first gave it its valid name. The "holotype" would technically be the earlier invalid *description* or *illustration* (as with Savigny above) and not the material upon which that description or illustration was based. Where the author who first gave the valid name had not seen the material, it would be necessary to designate as neotype a specimen from among that material if any were found to exist or, failing that, from another reliable source.

If, for example, the original specimen illustrated by Savigny (above) were discovered, it would not be the type of *Ommexecha angustum* Blanch. because Blanchard never saw it. It could, however, be designated a neotype. It might also be placed in a special category taking precedence over any other unofficial neotype (and even perhaps by application to the Commission over any other official neotype ?).

In the case of an invalidly named or unnamed species being subsequently given a valid name by its *original author*, the original material would be deemed typical whether or not it was still available to the author at the time he gave the valid name, unless the author chose to designate other material as typical.

*This might be difficult to confirm or deny. It should therefore only be accepted that he had seen it if it is clear that he had done so—preferably by a statement to this effect.

(2) Extract from a letter dated 12th June 1952

My suggestion on the subject of the publication of proposals relating to the establishment of neotypes in particular cases was due to a feeling that authors wishing to designate neotypes may wish to do so in connection with some taxonomic work which would not be of concern to the Commission, since the latter deals with nomenclature only. Having proposed that such and such a specimen be regarded as a neotype, an author might feel reluctant to write up again the whole of his evidence for regarding it as such. I would agree that formal application to the Commission should be published in the *Bulletin*, but I feel that this should be brief, merely referring to the relevant literature and summarising the case. I feel that the whole case need not be stated in detail, otherwise the *Bulletin* would be in danger of becoming a journal devoted to a certain type of taxonomic problem as much as one of nomenclature.

DOCUMENT 2/12

Suggestions furnished by FRANZ DANIEL

(*Zoologische Sammlung, des Bayerischen Staates, München, Germany*)

Editorial Note.—Attention is drawn to the letter, dated 30th April 1952, from Dr. Franz Daniel (*Zoologische Sammlung des Bayerischen Staates, München*), which, being mainly concerned with the problem of promoting stability in zoological nomenclature has been included in the series of papers which has been assembled in regard to that subject. It is there included as Document 1/25.

In the letter referred to above, Dr. Daniel suggested that the stabilisation of nomenclature should be sought by the establishment of committees of interested specialists in particular groups at the family level, wide powers being given to these Committees to promote stability without being unduly trammelled by the principle of priority. It will be seen that Dr. Daniel included in his scheme a proposal that power should be granted to the Committees to establish neotypes in cases where by reason of their age or for other reasons the existing type material was insufficient effectively to serve the required purpose.

DOCUMENT 2/13

By CYRIL F. DOS PASSOS, LL.B.
(*Research Associate, American Museum of Natural History, New York*)

Enclosure to a letter dated 3rd May 1952

ON THE QUESTION WHETHER AND SUBJECT TO WHAT CONDITIONS THE CONCEPT OF A " NEOTYPE " SHOULD BE OFFICIALLY RECOGNISED BY AN APPROPRIATE AMENDMENT TO THE " RÈGLES "

Introduction

In recent years it has become the practice among some zoologists to designate neotypes when the type has been lost or destroyed. Examples of this custom among entomologists will be found in the papers of Freeman (1952), dos Passos (1943, 1949), dos Passos and Grey (1947), Sabrosky (1950), and others.

The practice of designating neotypes has no basis at present in the *Règles*, but it grew up, like the practice of designating lectotypes, as the result of what was deemed to be a matter of necessity. The problem presented by the question of recognising neotypes was brought first to the attention of the International Commission on Zoological Nomenclature by Frizzell and Wheeler (1935, 1945) who in the case discussed by them concluded that such recognition would certainly tend to stabilise nomenclature and prevent some of the shuffling about of names, which is so common at present. This interesting paper (1945) was commented upon by the Secretary of the Commission in the same volume (1945) and he brought that question up at the 1948 International Congress of Zoology at Paris, where it was recognised that there is a widespread desire for the recognition of neotypes under certain conditions. At that Congress the Commission agreed to recommend (1950, *Bull. zool. Nomencl.*, vol. 4, pp. 191-193) :—

> " that the Secretary to the Commission should be invited to make a thorough study, in conjunction with interested specialists, of the problems involved in the proposal that the category ' neotype ' should be recognised in the *Règles* and to submit a Report thereon, with recommendations, for consideration by the Commission at their meeting to be held during the next (XIVth) meeting of the Congress, with a view to the submission by the Commission of a considered statement of their views on this subject and, if they decided in favour of recommending that the foregoing category of type specimen should be recognised in the *Règles*, of a comprehensive scheme to that end."

The matter was again discussed informally in the Section on Nomenclature at the 1951 International Congress of Entomology at Amsterdam, where it was described as one of the important matters coming up for decision in 1953. Recently the Secretary of the International Commission on Zoological Nomenclature published an elaborate report on the subject of recognising neotypes with numerous recommendations, and an appeal to zoologists for advice

(1952 *a*). It is to assist in the decision whether (1) neotypes should be recognised by the *Règles*, and if so (2) to formulate appropriate rules covering this subject that the present paper is submitted to the Commission. Some of the Secretary's recommendations will be commented upon at the conclusion of this paper.

Should Neotypes be Recognised?

In zoology a name is applied to an object called the type specimen. The type specimen is identified by a name and defined by a description in words or by a figure, as prescribed by the *Règles*. Words can never fully describe an object because (*a*) they are inadequate, and (*b*) the author may overlook some essential character, etc. Figures also are fallible, although often better than words, but they cannot be dissected—sometimes a matter of supreme importance. Old descriptions are especially troublesome with scanty wording frequently applicable to two or more objects, and with many indefinite or false localities. In every case nothing is better than, and nothing is quite as good as the type specimen itself. If the type specimen is lost or destroyed, the next best thing is a new type specimen—a neotype—believed to be similar to the old one from the same locality, and taking its place.

A neotype is defined as " . . . a specimen identified with a species already described, and selected as a standard of reference where the original type or co-types are lost or destroyed " (Smith, 1906, p. 87), " . . . a later selected type of a species necessitated by loss of the original material; the neotype must come from the original locality " (Frizzell, 1933, p. 658), or more modernly as " . . . a plesiotype . . .; selected to represent the holotype when the original type or holotype is lost or destroyed " (de la Torre-Bueno, 1937, pp. 180, 214). Other definitions have been proposed by Banks and Caudell (1912), Frizzell (1933), and Schenk and McMasters (1935).

There are two additional situations not covered by present definitions in which the designation of a neotype may be necessary or advisable. If a type specimen is unrecognisable as a result of a serious injury, a new type specimen should be designated. An unrecognisable type specimen is no better than one that has been lost or destroyed. Often in Lepidoptera the abdomen of a type specimen is missing. Many species of Lepidoptera can be determined correctly only by an examination of their genitalia. This is an illustration of a case where the type specimen, although in existence, is not recognisable. The second case is where a type specimen is fragmentary. Perhaps a name may have been proposed from a bone or a tooth, and later a complete skeleton is discovered. In such an instance a paleontologist may well wish to designate a neotype for the complete animal. Certainly that would be highly desirable. Such cases should be provided for if neotypes are to be recognised by the *Règles*.

The principal objection to the designation of neotypes is that it would encourage unscrupulous dealers and others to create such types for commercial or private purposes. This objection is met by a provision in the proposed rules, hereinafter set forth, that neotypes shall not be created *en masse* and must be deposited in certain specified institutions. Thus the incentive to designate neotypes for personal gain is removed. There are also those who believe that neotypes are unnecessary. That obviously is a matter for each

individual worker to decide for himself. Perhaps in some cases they are unnecessary to some individuals, but to others the contrary is often true. Others have inquired, " What becomes of the neotype if the type is rediscovered at some later time ? " There appears to be no objection to having the neotype fall if the type is subsequently discovered. No new name has been created. If the neotype is found not to be conspecific with the type, a new name could then be proposed for it if necessary, and all references thereto placed in the synonymy of the new name. This phase of the matter seems to present no complications. On the whole it is believed that neotypes under some terms and conditions should be recognised by the *Règles*.

What Conditions Should be Required by the " Règles " to Authorise the Designation of Neotypes ?

With a view to advancing the discussion of the subject so that rules may be drafted and circulated among zoologists before any action is taken on this important subject by the International Congress of Zoology at Copenhagen in 1953, the following rules for the regulation of neotypes are suggested :—

DEFINITION. A neotype is a specimen designated to replace the holotype or the lectotype (both hereinafter referred to as the type specimen), when the type is lost, destroyed, unrecognisable, or fragmentary. A type specimen is unrecognisable or fragmentary when it lacks a character necessary or helpful in establishing its correct determination.

RULES. After —th January 195[?], an author may designate a neotype by complying with the following rules :—

A. The type must be lost, destroyed, unrecognisable, or fragmentary, and detailed evidence of that fact must be set forth in the paper containing the designation.

B. The designation of the neotype must be (1) published, (2) the neotype must be labelled as such by its designator, and (3) the neotype must be deposited in a recognised scientific or educational institution which maintains a research zoological collection with proper facilities for conserving types and giving access to its collection by accredited students.

C. The neotype must agree with the original description and any published redescription of the type before its loss, destruction or unrecognisableness, or with the fragment described in an original description.

D. The neotype must agree also with the first published restriction of the species, even though not accompanied by a lectotype or neotype designation.

E. The neotype must be (1) from approximately the same locality, if definite, as the type specimen, or if indefinite, from a locality subsequently fixed, (2) taken at approximately the same season, and (3) of the same sex and host as the type, if any or all these facts are known.

F. If the type locality, as originally published, is shown to be false, the neotype must be from approximately the same locality as that subsequently fixed.

G. Neotypes shall not be designated *en masse*, but (except as hereinafter provided) in a revisionary paper only, to which the designation is relevant and material.

SAVING CLAUSES. Nothing herein contained shall be deemed to :—

1. Invalidate any neotype designation published on or before 31st December, 195[?], in conformity with these rules, and the burden of proving non-conformity shall be upon the author alleging that fact, but such neotype, if published in

substantial conformity with these rules, may be republished in conformity therewith in a paper whether revisionary or not, and shall date from the time of the original publication.

2. Validate any neotype designation whenever published, if at any subsequent time the type is found, unless it is unrecognisable or fragmentary.

PENALTY. After —th January 195[?], a neotype not designated in accordance with these rules shall be null and void, and shall not prevent the subsequent designation of a neotype in accordance with the provisions hereof, but in such event the author shall set forth in detail the reason for claiming that the prior designation is invalid.

Comments on the Secretary's Recommendations

Careful consideration has been given to the proposals of the Secretary (1952 *a*) with many of which agreement will be almost unanimous. There are others, however, which seem unnecessary, or unduly restrictive, such as those wherein he recommends, among other things, the institution of some central authority, without the approval of which no neotype could be validly established (paragraph 8), or by which the neotype would be designated (paragraphs 9 and 20), and by which the depository would be selected in which the neotype would be placed (paragraph 10), and they are not favoured. The same reasoning applies to the publication of a figure (paragraph 11) of the neotype—something not required for a type or lectotype, and the suggestion also advocated by Usinger (1952) that a new description be published (paragraph 11), and that these be overseen by the central authority. Who, it may be asked, is to pay for such a figure in a day when the cost of illustrating a paper has become almost prohibitive, and why is a new description to be required when in most cases there already is a description of the type ? May there not be danger that two descriptions will conflict with each other in some particular ? With the Commission lacking as it does both a sufficient staff and ample funds, there is no central authority in existence capable of handling all the work envisaged by the Secretary, and most of it is no more necessary in the case of a neotype than in the case of a holotype or a lectotype. Neither the Commission nor its Secretary should be burdened with such a vast amount of additional labour, and how, it may be inquired, is the financing of a central authority to be provided for ?

Neotypes should be considered no more sacred than holotypes or lectotypes, except insofar as it is necessary to prevent abuse in designating them. Until some provision is made for the care and accessibility of holotypes and lectotypes, no provision on these subjects need be made for neotypes other than requiring their deposit in a suitable institution, something that should be compulsory for all types. In the meantime it may safely be left to the author to decide where neotypes will be deposited, trusting to his interest to see that they are preserved and made accessible to students, as is the case at present with other types.

It is believed that the Secretary's well-intentioned desire to secure adequate safeguards against the exploitation of neotypes for commercial reasons or otherwise, with which everyone must be in accord, has moved him to suggest such drastic requirements in some cases that if adopted the desirable authority to designate neotypes will be frustrated in many instances and that few will

be created. The freedom and responsibility of authors must be maintained. Let us by all means have neotypes, but let them be designated under simple, self-operative rules which each author may apply on his own responsibility.

In conclusion, I oppose the suggestions appearing in paragraphs 8 to 11 of the Secretary's report (1952 *a*), including the so-called need for the avoidance of duplicate neotypes (paragraph 9)—something easily controlled by the law of priority as it is in the designation of types. A second neotype, erroneously designated, would merely become a synonym of the first. I disagree also with paragraph 15, depriving of its status a subsequently discovered type believed to have been lost or destroyed, unless it is found to be unrecognisable or fragmentary, and with paragraph 16, requiring the fullest discussion between interested specialists, as often impracticable and leading to much waste of time and no tangible results when such specialists disagree, and paragraph 17, requiring approval by a central authority for neotypes.

As to the type locality from which the neotype must be selected, that involves other considerations discussed by the Secretary in a separate paper (1952 *b*, pp. 172-180), and may perhaps not necessarily be gone into any further in the present paper. It suffices to say that the neotype must be from the type locality, subject, however, to certain obvious exceptions, which have been provided for in the rules herein proposed.

Acknowledgment

I am indebted to Professor Alexander Barrett Klots, of the American Museum of Natural History and the College of the City of New York, and Mr. Curtis Williams Sabrosky, of the Division of Insect Detection and Identification, United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, Washington, D.C., for valuable suggestions in the preparation of the above rules, many of which have been incorporated in words or in substance. Mr. Sabrosky has been particularly obliging in reading several times and commenting upon these suggestions at considerable length. While we have not agreed fully on all of their provisions, it is a pleasure to state that we found ourselves to be of one mind upon many of the questions involved. I have also discussed the proposed rules with Mr. Frederick Martin Brown, of the Fountain Valley School, Colorado Springs, Colorado, who has made valuable suggestions too.

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DOCUMENT 2/14

By Th. HALTENORTH
(*Museum, München, Germany*)

Statement, dated 14th May 1952, communicated by Professor E. M. Hering

VI. Die im "Richter" p. 24-34 gegebene Typen-Handhabung sollte verbindlich gemacht werden, da danach allgemein gearbeitet wird.

DOCUMENT 2/15

By W. J. ARKELL, M.A., D.Sc., F.R.S.
(*Sedgwick Museum, Cambridge University, Cambridge*)

Enclosure to letter dated 23rd May 1952

I am not in favour of the official regulation of neotypes by additions to the Rules. Neither the setting up of neotypes nor their acceptance by later workers has given any trouble in my group. Some people have been motivated by patriotism and have figured a German specimen (say) as neotype of an English species. One simply ignores such performances, and no harm is done. If setting up of neotypes becomes legalised I am afraid some authors who have hitherto been fond of "emending" every species and genus will find ways and means of doing the job with more effect by setting up neotypes wherever possible. Subsequent authors will then have the added burden of sifting the credentials of hundreds of neotypes to ascertain whether they must be accepted under the Rules, with consequent changes of concept.

In recent years some type specimens from the Sowerby Collection have found their way to the B.M. on the death of a relative—over a century after publication. It seems to me intolerable that such types should lose their legal status in favour of a neotype trotted out by some upstart "reviser" in the meantime, on the ground that "the types are lost."

There are so many shades and degrees of adequacy and inadequacy in type specimens that it would be impossible to define at what stage of inadequacy a neotype becomes justifiable. I can see this sort of thing: "Sowerby's specimens are all hopeless. Neotype author's coll. No. 4265783." All this is a further burden on subsequent workers.

There is no reason why an author should not accept a predecessor's neotype if it is reasonable; but why should he be forced to do so if he is convinced that it is not the same as the original types or type figures, which he may know better than the less conscientious predecessor?

DOCUMENT 2/16

By J. R. DYMOND
(*University of Toronto, Department of Zoology, Toronto, Canada*)

Statement received on 27th May 1952

I am in favour of the recognition in the *Règles* of the concept of neotypes as a category of type specimen and I consider the draft plan submitted in Volume 7, Parts 5 and 6, of the *Bulletin of Zoological Nomenclature* adequate for the decision of question arising in connection with the designation of neotypes.

DOCUMENT 2/17

By ERICH M. HERING
(*Abteilungsleiter am Zoologischen Museum der Humboldt-Universität zu Berlin*)

Statement received on 7th June 1952

Stellungnahme zur vorgeschlagenen Einführung des " Neotypus "-Begriffes in die " Règles "

Die Vorschläge über die Einführung des Neotypus in die *Règles*, die in *Bull. zool. Nomencl.* **7,** Pt. 5/6, p. 133-147 ausgeführt wurden, werden vom Stab der Zoologen des Zoologischen Museums Berlin mit 13 von 14 Stimmen, vom Stab des Zoologischen Museum München (nach Mitteilung von Dr. Walter Forster von der Zoologischen Sammlung des Bayerischen Saates) mit 11 von 12 der befragten Zoologen *unterstützt.*

Die in Para. **7** (p. 134) vorgesehenen Sicherungs-Klauseln werden von den Zoologen beider Museen als unbedingt notwendig angesehen.

Die Paras. **8-14** (p. 135-138) werden mit 13 von 14 Stimmen des Museums Berlin und mit 11 von 12 Stimmen des Museums München *unterstützt.*

Von Para. **15** wird der Vorschlag (*a*) (p. 140) mit 13 von 14 Stimmen des Museums Berlin *abgelehnt.* Es soll also der Neotypus seinen Status verlieren, wenn Holotypus oder Syntypen wiedergefunden werden und sich als zu einer anderen taxonomischen Einheit gehörend erweisen.

Aus Para. **13** (p. 137) werden die Worte " in such a case, it may be thought desirable to designate as the neotype a more representative example " mit 13 von 14 Stimmen des Zoologischen Museums Berlin *abgelehnt.*

Zu Para. **24.** Unoffizielle Neotypen, die bisher aufgestellt worden sind, werden von den Zoologen des Berliner Museums mit 14 von 14 Stimmen *abgelehnt*. Dr. Walter Forster fordert im Einverständnis mit dem Zoologen-Stab des Münchener Museums, dass solche Neotypen durch ein entsprechendes Verfahren *legalisiert* werden sollen.

DOCUMENT 2/18

By RICHARD MEINERTZHAGEN, D.S.O.
(*London*)

Extract from a letter dated 16th June 1952

I have just read your *Bull. zool. Nomencl.* 1952 paper on neotypes.

I agree with all your safeguards, but it may be very difficult for a central authority to assess the efficiency of museums to look after their types. I think it might be better if agreement could be reached by which each country selected one of its museums for reception of neotypes ; for example, in this country the B.M.

I do not like the idea of inventing a new name for agreed neotypes. It would overburden an already congested type-nomenclature.

I should like to insist that all descriptions of neotypes be in English, French or German.

DOCUMENT 2/19

By ANGEL CABRERA
(*Eva Peron, F.C.N.G.R., Argentina*)

Statement dated 22nd June 1952

On Neotypes. Z.N.(S.)358

I am in favour of the recognition in the *Règles* of the concept of neotype, and I agree with your suggestions in paragraphs **21-24** (pp. 141-146). It seems to me, however, that it is very important to distinguish between the two kinds of neotypes : (1) neotypes s.s., to be designated because the type material was lost, or supposedly lost, and (2) complementary neotypes, designated because the type material is considered either insufficient or inadequate for exact specific identification, as in the case of a partly destroyed specimen, or a fossil type consisting only of isolated teeth. Now, a difficult question is the one exposed in your paragraph 15. What must we do if, after designating a neotype, the supposedly lost type (case 1) reappears, or the parts missing in the defective type (case 2) are found ? You suggest (p. 140) two alternatives : (*a*) to deprive all the surviving type material of its status as such, and (*b*) to rely on a decision of the International Commission. I am sorry that I

dissent from your suggestion that " of these alternatives (*a*) is preferable to (*b*)." In fact, alternative (*a*) means to deprive an author of the paternity of his species. And what if, through comparison between the neotype and the rediscovered (or completed) original type, they are found to belong to different species ? E.g. John Smith describes a new species, names it and designates a type. Afterwards, by war, fire or earthquake, the type appears to be lost, and Peter Jones designates a neotype, subsequently recognised as such by the International Commission. But five, six or twenty years afterwards the supposedly lost type is found, and careful comparison reveals that the neotype belongs to another species. Is it fair to assert that the neotype designated by Jones represents the " final and irrevocable standard " for identifying a species to which it really does not belong ? How is it possible to say that the characters of the species to which the neotype belongs are those of the species described by Smith, thus ascribing to Smith the authorship of a species which he did not even know ? We cannot build a system of zoological nomenclature on false foundations.

As to incomplete types, so long as the *Règles* permit a nominal species to be described and established on " any part of an animal," I cannot see how we can deprive a type of its status as such on the ground that it is a fragmentary specimen.

In my opinion, a neotype s.s. ceases to be such if the original type reappears, and a complementary neotype retains this status only as long as it is not shown to represent a species different from the species of the original type.

DOCUMENT 2/20

By JOSHUA L. BAILY, Jr.
(*San Diego, California, U.S.A.*)

Statement received on 24th June 1952

Neotypes (Bull. zool. Nomencl. 7 : 131-147)

Para. **8**

The fact that the original type specimen of a species was placed in a certain museum is no reason, I think, for ruling that in the event of their destruction or loss, the eligible species to be selected as neotypes should be confined to specimens in the same museum. The type specimen should be kept in a museum near the type locality.

As an example I might mention the family ACHATINELLIDAE, which is confined to the Hawaiian archipelago in the mid-Pacific. The types of many of its species are in Vienna. The inconvenience that confronts the student who has to go to Hawaii to collect his living material and to Vienna to study the types is obvious. If as the result of any calamity the types in Vienna should be destroyed the neotypes should be selected from the museum in Honolulu.

DOCUMENT 2/21

Statement of the views of the scientific staff of the
ROYAL ONTARIO MUSEUM OF NATURAL HISTORY, TORONTO, CANADA

Enclosure to a letter, dated 26th June 1952, from Dr. F. A. URQUHART
Director

(For the text of the above letter, see Document 1/39 (pp.67-68)

Neotypes : Commission's Reference Z.N.(S.)358

We are unanimously in agreement that the concept of neotypes should be recognised in the rules as a category of type specimens.

We unanimously agreed that provision should be inserted in the rules stipulating that neotypes must become the property of a museum or other public institution or, on being so selected, be presented to, or placed on permanent loan in such an institution.

We unanimously agreed that a full description and figures of specimens should be presented when designating a neotype. Further, that a specimen to be a neotype should conform as closely as possible with the original description of the species concerned.

We unanimously agreed that a neotype must not necessarily be a specimen from the same locality as the original type material of the species concerned.

It was unanimously agreed that, on the establishment of a neotype, all surviving type material, whether at that time known to be in existence (this being a provision which, as already shown, would in any case be necessary for other reasons) or discovered subsequent to the establishment of a neotype for the species in question, should be deprived of its status as such.

It was unanimously agreed that, before any specimen is officially recognised as a neotype, there should be the fullest consultation between interested specialists.

Suggestion

The suggestion is offered that central bodies be set up in connection with establishing neotypes. These bodies would be connected with institutions concerned with the systematic studies of a particular Order. For example, at the present time Dr. Rehn of the Philadelphia Academy of Sciences might be elected to oversee the erection of neotypes in the Order Orthoptera in North America. Individuals for the study of other Orders of animals might be similarly elected to pass judgment on the establishment of neotypes, and also through consultation with other workers in the Order, to decide what institution should receive the neotype material. If such is deemed necessary, a public notice might be published before approving the establishment of a neotype. It is our opinion, however, that acting through the office of an elected person outstanding in research in a particular Order, correspondence would eventually solve the question without publication. We feel that such a suggestion would take care of most of the questions presented by you in

paragraph 20, page 143, of Volume 7, Parts 5 and 6. We might further suggest that such elected individuals might work through the International Commission on Zoological Nomenclature, if such is deemed advisable. It might well be that this particular individual (or committee) in charge of a particular Order might make application to the Commission for permission to designate a neotype, after having duly considered the matter. It is further proposed that the International Commission would prescribe rules regarding the information to be furnished in any application for the designation of neotypes to that person or persons so designated as in charge of the systematic study of a particular Order.

DOCUMENT 2/22

By A. MYRA KEEN and SIEMON W. MULLER
(*Stanford University, Stanford, California, U.S.A.*)

Enclosure to a letter dated 1st July 1952

On the Question of Recognition of " Neotypes " in the " Règles "

We favour the acceptance of " neotypes " as a category of type specimen with the safeguards suggested—namely, that the International Commission on Zoological Nomenclature have exclusive right to designate the type specimens and that such types should be registered on the *Official List of Specific Trivial Names.*

DOCUMENT 2/23

Statement of the views of the
COMMITTEE ON NOMENCLATURE OF THE AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK

Enclosure to a letter dated 10th July 1952

(For an extract from the above letter, see Document 1/41 (pp. 70-71)

General designation of neotypes should be placed under high restrictions. It is questionable whether they should be permitted at all, since they may easily serve to fix a name on a totally different concept than that envisaged by the original author. If the name cannot be identified without the (lost or deficient) holotype, how can its exact identity be bonded with a specimen arbitrarily selected by anyone, including the original author ? If the name is identifiable, no neotype is needed. Unidentifiable names are provided for by the class of *nomina dubia*, where they should remain. Yet, where names are, strictly speaking, unidentifiable, but are of universal usage to designate well-known species, such usage is to be maintained.

However, we realise that neotypes are in favour among certain taxonomists, particularly palaeonotologists, who find them of particular service as adjuncts to deficient holotypes rather than as replacements for lost holotypes. If they are recognised by the Commission, restrictions should require documented and adequate proof of the absolute necessity for each such neotype; the designation should be made only in a complete review of the group concerned; it should be approved by a committee of experts in its limited field and after advance notice through the Commission; the neotype should be deposited in a recognised public museum of international repute.

One question involves the procedure in case a supposedly lost holotype is rediscovered. Mr. Hemming proposes two alternate solutions. (1) The holotype will have lost all rights; (2) The case must be re-examined by the Commission. We favour alternate No. 2. Any automatic ruling could easily upset existing nomenclature. The first alternative emphasises the possibility that the neotype may prove to be something other than the holotype, showing that what is being done is creating a new concept and attempting to use an old name for it which is of uncertain application.

A.M.N.H. Committee on Nomenclature.

(Signed) JOHN T. NICHOLS.
ERNST MAYR.
GEORGE H. H. TATE.
JOHN T. ZIMMER (Chairman).

Edwin H. Colbert looks with more favour on the use of neotypes, but believes with us that they should be used sparingly and subject to careful control. If lost types are found, he agrees the matter should be referred to the Commission.

(Signed) JOHN T. ZIMMER.

DOCUMENT 2/24

Statement submitted on behalf of the
NOMENCLATURE DISCUSSION GROUP, WASHINGTON, D.C.

Enclosure to a letter, dated 16th July 1952, from
Dr. R. E. BLACKWELDER, Secretary

Neotypes

Discussion of this problem revealed such wide and strong differences of opinion that it appeared impossible to draft any general statement for the Nomenclature Discussion Group. Accordingly, a ballot was prepared, containing brief statements of various important points, and the results of the vote are herewith submitted to the I.C.Z.N.

(1) **18.** Neotypes should not be recognised in the Code.

31. Neotypes should be recognised in the Code.

All but three of those opposed to neotypes also registered their beliefs on the following questions that would have to be considered if neotypes were adopted. A breakdown of the votes showed approximately the same reactions to the other questions on the part of those against neotypes and those for neotypes, except in the fourth question.

On most points there was a definite majority in favour of one view, but with a sizeable minority. On the sixth and seventh points, however, the margin was particularly noteworthy.

(2) **20.** They should be governed by definite rules in the Code.

26. The Code should contain a few basic rules, with recommendations for matters where mandatory provisions seem impractical (e.g. agreement with type locality).

(3) **11.** Neotype designation should be vested exclusively in the International Commission.

35. Designation should be by individuals, operating under rules and recommendations in the Code.

(4) **30.** Neotypes should replace only lost or destroyed types.

16. Neotypes should replace fragmentary or unrecognisable types as well as those lost or destroyed.

On this point, the taxonomists who are fundamentally opposed to neotypes voted 12 to 3 for the first alternative (neotypes to replace only lost or destroyed types). Among those favourable to neotypes, however, the vote was much closer, with the first alternative favoured by 18 to 13.

(5) **25.** Neotypes should be deposited only in museums, or other public institutions suitable as type depositories.

10. As above, but if the original type was in a certain museum or comparable public institution, or in a collection now the property of such, the neotype must be deposited there, unless such place no longer maintains type or research collections.

9. Neotypes may be deposited in any collection, public or private, as the designator may choose.

2. [For the original collection, whether public or private, or if destroyed, then in any collection.]

It is possible to analyse these answers in various ways. Thirty-five favour putting neotypes in museums or other suitable public institutions, as against

eleven who favour the right to put them in any collection, public or private. Twelve would give precedence to the original collection, but thirty-four would not insist on that rule.

(6) **40.** Neotypes automatically fall if types are later found.

6. Neotypes, once established, take precedence over any type material subsequently discovered.

(7) **40.** Neotypes should be designated ONLY where relevant and essential to solving a zoological problem (ideally in revisions and monographs as those terms are usually understood, but acceptable under the above limitation in a paper dealing with the status of one species. or its subspecies).

6. There should be no restraints on when neotypes may be designated

DOCUMENT 2/25

By HENNING LEMCHE
(*Universitetes Zoologiska Museum, Copenhagen*)

Extract from a letter dated 20th July 1952

On your interesting and exhaustive comment [in Vol. 7 of the *Bull. zool. Nomencl.*] on neotypes (Z.N.(S.)358) I have no comments.

DOCUMENT 2/26

Statement submitted on behalf of the
NOMENCLATURE COMMITTEE OF THE SOCIETY OF SYSTEMATIC ZOOLOGY

Letter, dated 21st July 1952, with enclosures, from
Dr. W. I. FOLLETT, Chairman

The Nomenclature Committee of the Society of Systematic Zoology recommends as follows :—

(1) The Rules should recognise the concept of neotypes.

(2) Neotypes should be confined to the replacement of lost types.

(3) Neotypes should be designated by individuals, not by the International Commission.

On the remaining aspects of this subject concerning which you have requested advice, there is considerable divergence of opinion within the Committee, which is best illustrated by the replies to the two memoranda that were issued to the Committee during the chairmanship of Dr. Charles D. Michener. This material (enclosed herewith in duplicate) comprises the following :—

(*a*) Memorandum to the American Committee on Entomological Nomenclature on the subject of neotypes, by Robert L. Usinger.

(*b*) Memorandum on neotypes, by C. F. Dos Passos (Appendix 2).

(*c*) Reply of each Committee member to the foregoing memoranda. Some of these have been submitted on page 4 of a copy of Dr. Usinger's paper ; others by separate letter (Appendix 3).

Further discussion of this subject by a member of this Committee (and by other members of the Society) is submitted by way of the minutes of a symposium recently conducted by the Pacific Section of the Society (Appendix 4). Only that portion of these minutes which deals with neotypes is enclosed. This material does not constitute a part of the Committee's report, but is submitted by way of a supplement thereto.

APPENDIX 1 TO DR. W. I. FOLLETT'S LETTER OF 21st JULY 1952

MEMORANDUM SUBMITTED BY PROFESSOR ROBERT L. USINGER TO THE AMERICAN COMMITTEE ON ENTOMOLOGICAL NOMENCLATURE

MEMORANDUM TO THE AMERICAN COMMITTEE ON ENTOMOLOGICAL NOMENCLATURE ON THE SUBJECT OF NEOTYPES

By ROBERT L. USINGER
(*University of California*)

I have been asked by Chairman E. G. Linsley to prepare a brief on the question of neotypes for consideration by our committee. This was prompted by the appearance of a preliminary consideration of this subject by the Secretary of the International Commission, Francis Hemming (*Bull. zool. Nomencl.* 7 : 131-147, 1952). Secretary Hemming requests that the views of our own and other committees be sent to him by 31st July 1952, so that they may be considered while preparing the Report which he is to publish in the *Bulletin of Zoological Nomenclature* as a basis for discussion at the Copenhagen Congress.

The procedure that I have chosen for this memorandum is (A) A summary of Secretary Hemming's views as expressed in the *Bulletin of Zoological Nomenclature ;* (B) A critique of these views ; (C) Recommendations on which a vote is requested by our Committee.

A. Summary of Secretary Hemming's Discussion of Neotypes

(1) Purpose : " The sole purpose of authorising the establishment of neotypes is to provide a final and irrevocable standard for the identification of a species in cases where there is no surviving type material or where the known surviving type material is insufficient for this purpose " (B.Z.N. 7 : 140, 1952). Secretary Hemming adds that " The official recognition of a specimen as a neotype amounts in effect to the provision of an entirely new basis for the identification of the species concerned, while retaining for that species its original name with its original author and priority."

(2) No specimen should be eligible for designation as a neotype unless it is, or becomes, the property of a museum.

(3) Museums have a moral claim to the right to designate neotypes for lost types which were once in their possession.

(4) Rigorous safeguards are needed in neotype designation to prevent exploitation by museums and by individuals.

(5) The power to designate neotypes should be vested exclusively in the International Commission.

(6) This central authority is needed to avoid competing or duplicate neotypes, to determine which institutions can be relied upon to take adequate care of neotypes, and to decide when to permit departure from original descriptions and from original type localities.

(7) Neotype designation must be accompanied by a full description and figures.

(8) Neotypes may be designated to supplement original but inadequate type material.

(9) Neotypes take precedence over any surviving type material.

(10) Public notice should be given twelve months in advance of neotype designation.

(11) The neotype should not run counter to any restrictions or restricted identifications and should agree with the appropriate subspecies in cases involving polytypic species.

(12) Neotypes should be substituted for the figures cited by the Commission (*Danaus plexippus* Linn., etc.) as the basis for identification.

(13) The International Commission should prescribe the information to be furnished in applications relating to the designating of neotypes.

(14) Official neotypes should be differentiated by a code number such as " I.C.Z.N./1 " from the unofficial neotypes established before the new scheme comes into operation, the unofficial neotypes to have no status in nomenclature.

(15) The trivial name of every nominal species for which a neotype is established should be entered on the " Official List."

B. Critique of the Above Proposals on Neotypes

(1) The neotype concept, originally confined to the replacement of lost types, has been expanded to cover cases where existing type material is insufficient to provide a standard for the identification of species. Worthy though this might at first appear, it introduces a new subjective element into the picture because there will be differences of opinion as to the adequacy of most type material. The action of the " First Reviser " has sufficed in the past to take care of questions of this kind.

(2) Museums are generally considered to be the rightful depositories for *all* primary types, it being generally agreed that such specimens, upon which scientific work has been based, are the property of science. Nevertheless, this is no more than a recommendation for holotypes, etc., and it is not clear that neotypes are in any way more sacred than holotypes. It would appear that in the present state of international freedom in systematic zoology any central body that sets itself up as an arbiter as to the adequacy, competence and moral claim of competing museums and individuals is doomed to failure.

(3) Exploitation of neotypes could presumably be prevented just as well in the case of individuals as institutions (just as exploitation of the secondary homonym procedure can be prevented) by action of the International Commission. The difference between the present method of designating neotypes (by individuals) and the proposed method (exclusively by the International Commission) is that the individual taxonomist is provided with a procedure that he can use when he needs it, e.g. when he is doing the work. By the other method a *formal* petition must be submitted to the already hopelessly overworked Commission. Under the present "unofficial" scheme the Commission would have to act only in the rare instances when actual abuses have been noted and have been submitted to it for adjudication.

This is the fundamental issue in all recent publications from the Commission. On the one hand statistics are provided to show that the Commission is swamped with more applications, more letters, etc., per year than in all of the previous fifty years combined. On the other hand the trend, as in the present neotype recommendations, is away from so-called "automatic" nomenclature and toward central authority with the inevitable result that more and more cases must be referred to the Commission for arbitrary action.

(4) Central authority is not needed to avoid competing and duplicate neotypes, since priority of designation is a perfectly satisfactory criterion in such cases; no central authority should be charged with keeping the museums of the world under surveillance in order to insure that adequate care is being taken of neotypes. No central authority need decide when to permit departure from original descriptions or original type localities if the Rules were simply to require that neotypes be not inconsistent in characters and type locality with the data provided in the original description.

(5) The requirement that a full description and figures be provided when designating neotypes is fine but is an "ideal" recommendation. Neotypes should be validated by the same requirements as holotypes, e.g. the provisions of Article 25, the Law of Priority.

(6) Public notice could serve a useful function in neotype designation and still not require formal action of the Commission and twelve months' public notice in the *Bulletin of Zoological Nomenclature*. A method might be to allow a twelve months' period, or even longer, *after* the designation of a neotype by a specialist during which period the neotype is open to challenge. If at the end of the specified period no protest has been received by the Commission, the neotype is deemed to have been accepted by taxonomists and is not subject to change without formal action by the Commission.

(7) It should be realised that due to the fragile nature of most scientific specimens, nearly all original types will ultimately have to be replaced, in 100 or 1,000 years. Seen in this perspective, the procedure to be set up should be geared to *regular taxonomic practice* rather than to a central authority.

APPENDIX 2 TO DR. W. I. FOLLETT'S LETTER OF 21st JULY 1952

Notice of a Meeting of the NOMENCLATURE DISCUSSION GROUP, Washington, D.C., U.S.A., called for 18th June 1952 for the purpose of considering the question of the recognition of neotypes as a category of type specimen

NOMENCLATURE DISCUSSION GROUP

U.S. National Museum.
13th June 1952.

NOTICE TO ALL TAXONOMISTS:

The twenty-seventh meeting of the Nomenclature Discussion Group will be held in Room 43 of the U.S.N.M. on Wednesday, 18th June 1952, at 2.00 p.m.

SUBJECT: The proposals on neotypes.

CHAIRMAN: Curtis W. Sabrosky.

PROPOSAL BY C. F. DOS PASSOS on neotypes (in press, *Bull. zool. Nomencl.*).

[EDITORIAL NOTE: At this point there followed in the foregoing Notice the text of the proposals prepared by Mr. Cyril D. Dos Passos which have been published as Document 2/13 in the present Part of the *Bulletin* (pp. 121-127).]

APPENDIX 3 TO DR. W. I. FOLLETT'S LETTER OF 21st JULY 1952

COMMENTS FURNISHED BY THE MEMBERS OF THE NOMENCLATURE COMMITTEE OF THE SOCIETY OF SYSTEMATIC ZOOLOGY ON THE DOCUMENTS CONSTITUTING APPENDICES 1 AND 2 TO DR. FOLLETT'S LETTER OF 21st JULY 1952

Enclosure 1 to Appendix 3 to Dr. Follett's letter

COMMENT FURNISHED BY DR. W. I. FOLLETT

I am opposed to the recognition of neotypes, since I believe that (1) they would produce more confusion than would the absence of type material, (2) they would offer an inducement to the destruction of original type material by misguided workers, and (3) they would add a new subjective element to the Rules.

Enclosure 2 to Appendix 3 to Dr. Follett's letter

COMMENT FURNISHED BY PROFESSOR CHARLES D. MICHENER

I agree with Dos Passos' proposal except that I believe neotypes should be designated only for lost or destroyed types, not for unrecognisable ones. By whom is a type determined to be unrecognisable ?

Enclosure 3 to Appendix 3 to Dr. Follett's letter

COMMENTS FURNISHED BY DR. ROBERT R. MILLER

The Proposals on Neotypes

Views on suggestions by Hemming (*Bull. zool. Nomencl.* **7** : 131-47, 1952) as commented upon by Usinger and on proposals by Dos Passos :—

(1) A neotype should be designated only when the holotype or lectotype is lost or destroyed. To include designation where type material is " insufficient," " unrecognisable," or " fragmentary " introduces a subjective element which I believe to be undesirable.

(2) Neotypes should be governed by the same recommendations used for holotypes and should be deposited in a recognised scientific or educational institution that maintains a research collection (but not necessarily a museum, *sensu stricto*).

(3) Neotypes should be designated by individuals, *not* by the International Commission.

(4) Museums have a moral claim to the right to designate neotypes for lost types once in their possession or, if designated by another worker, museums have a moral claim to the specimen designated.

(5) Rigorous safeguards (see items 4 and 6 in Usinger's summary of Hemming's discussion), etc., are not necessary.

(6) It is strongly recommended (but not required) that neotype designation be accompanied by a full description and figure(s). The designation must be published, and the specimen must be labelled as such by its designator.

(7) The designation of a neotype becomes invalid if at any subsequent time the type (cotype, holotype, lectotype) is found.

(8) Public notice in advance of a neotype designation should not be mandatory. Usinger's suggestion for a period of twelve months (or longer) after the designation during which the neotype selection is to be open to challenge meets with my approval.

(9) The neotype should agree closely (but not necessarily in every detail) with the original description. It should be (*a*) from the type locality (if known) or, if the species is no longer extant there, from a locality nearby that is subsequently fixed, (*b*) taken at approximately the same season, and (*c*) of the same sex and host as the type, if any or all of these facts are known.

Annexe to Enclosure 3 to Appendix 3 to Dr. Follett's letter

COMMENT BY DR. ROBERT R. MILLER IN A LETTER TO DR. FOLLETT

As to neotypes, I agree with the thesis as presented by you over John S. Garth's signature. I strenuously object to the purely subjective clause inserted by Hemming that a neotype can be designated when the known surviving type material is insufficient for identification. I also sympathise with the discussion regarding type locality since there are numerous instances in ichthyology where the species or subspecies is now extinct at the type locality. Above all things, neotypes should not be subjected to the exclusive jurisdiction of the International Commission.

Enclosure 4 to Appendix 3 to Dr. Follett's letter

COMMENTS FURNISHED BY MR. CURTIS W. SABROSKY

(*Editorial Note :* The numbers cited by Mr. Sabrosky refer to the numbers given by Professor Usinger in Sections A and B of the paper which formed Appendix 1 to Dr. Follett's letter of 21st July 1952. Where at the beginning of an item a sentence is placed in inverted commas, this signifies that that sentence forms part of the Voting Paper issued by the Committee to its members.)

Section A

(1) " I am in favour of the recognition in the Rules of the concept of neotypes as a category of type specimen." [Answer given.] Yes, but only if strict regulatory provisions are included.

(3) I agree with numbers 2, 3, 4, 9 (if they are designated in line with strict requirements), 11, 12 and disagree with numbers 5, 6, 7, 8, 10 (but I should like to require prior consultation with other specialists), 13 (certain things should be required by the rules, however), 14, 15 (one might wish to designate a neotype for a synonym) in Section A above.

Section B

(1) Agree.

(2) I favour a rule that both holotypes and neotypes should be deposited in a reputable institution where they will be accessible to specialists, and not hoarded in private collections where they are not always cared for and not always accessible.

(3) I agree as far as the overworked Commission angle is concerned. But I don't believe that the present scheme should continue with an " unofficial " status, which is implied by Dr. Usinger's comment. Much as I dislike some things about the neotype problem, I believe that we shall have it with us more and more, and that we must establish some clear-cut rules to regulate neotypes and to furnish guidance for authors. It is scarcely necessary to point out, however, that not all neotypes have been designated when taxonomists really and truly *needed* them !

(4) Good, though I would go farther in requiring agreement with original information as far as possible.

(5) Impracticable to require that we fully redescribe and figure all 900,000 species (the threat that looms large from your comment 7) already described, in addition to all the new ones coming along ! As for validation under Article 25, could not all neotypes be easily validated merely by a bibliographic reference to the original description ?

(6) I dislike the passive attitude here. I should prefer to require that a specialist consult *before* he designates a neotype (perhaps too idealistic, but lack of sufficient co-operation, and too much of unilateral actions, have been the bane of taxonomy in the past).

(7) Perhaps more emphasis should be placed on careful and full *original* descriptions, with figures where necessary and/or desirable.

Enclosure 5 to Appendix 3 to Dr. Follett's letter

COMMENTS FURNISHED BY PROFESSOR HENRY TOWNES

(For an explanation of the numbers cited in the following document see Editorial Note to Enclosure 4 to the present Appendix.)

Section A

(1) " I am in favour of the recognition in the Rules of the concept of neotypes as a category of type specimen." [Answer given.] Yes.

(2) " I agree with the proposals on neotypes presented by Hemming as summarised in Section A above." [Answer given.] No.

(3) I agree with number 11 and disagree with all others in Section A above.

Section B

(4) " I agree in general with the critique presented in Section B above." [Answer given.] Yes.

(5) I agree with numbers 1-5, 7 and disagree with number 6 (this formality is burdensome) in Section B above.

(6) " I wish to make the following additional comments and I authorise the Committee to incorporate these views in its report and transmit them to the International Commission for consideration at the Copenhagen Congress in 1953."

In regard to museums as correct depositories for *all* type material, the discussion is pointless until a " museum " is defined, and the definition is not intellectually possible without arbitrary restrictions.

Section 11 of Hemming's proposals is opposed to all the other sections. Section 11 alone is sufficient as a philosophy and guide for neotype designation and use. Section 11 recognises priority, first reviser, and any information in the original description and surviving type material. When these principles are recognised, *where* is there any room for other principles or procedures ?

Annexe to Enclosure 5 to Appendix 3 to Dr. Follett's letter

COMMENT BY PROFESSOR HENRY TOWNES IN A LETTER TO DR. FOLLETT

Neotypes, in my opinion, represent only a taxonomist's interpretation of a name and have value only in clarifying his interpretation.

Enclosure 6 to Appendix 3 to Dr. Follett's letter

COMMENT FURNISHED BY PROFESSOR JOHN W. WELLS

The proposals on neotypes by Dos Passos seem very sound and understandable to me. They are clear and simple, and I would recommend them strongly.

Enclosure 7 to Appendix 3 to Dr. Follett's letter

COMMENTS FURNISHED BY DR. JOHN T. ZIMMER

(For an explanation of the numbers cited in the following document see Editorial Note to Enclosure 4 to the present Appendix.)

Section A

(1) " I am in favour of the recognition in the Rules of the concept of neotypes as a category of type specimen." [Answer given.] No.

(2) " I agree with the proposals on neotypes presented by Hemming as summarised in Section A above." [Answer given.] No.

(3) I agree with numbers 1, 2, 4, 10, 11, 15 and disagree with numbers 3, 5, 6, 8, 9, 12 in Section A above. Nos. 7, 13, 14 problematical.

Section B

(5) I agree with numbers 1, 3-7 and disagree with number 2 in Section B above.

(6) " I wish to make the following additional comments and I authorise the Committee to incorporate these views in its report and transmit them to the International Commission for consideration at the Copenhagen Congress in 1953."

I disapprove of the concept of neotypes, but in case there is a successful effort to establish them, I believe they should be under restrictions that will prevent their abuse. Hence the seemingly inconsistent approval and disapproval in my vote.

My disapproval of neotypes is based on belief that they do not truly represent the original concept. If an original name is unidentifiable without the holotype, it should be discarded, not transferred to a new entity that may or may not be identical with the original concept. If it can be identified, no neotype is needed.

Annexe to Enclosure 7 to Appendix 3 to Dr. Follett's letter

COMMENTS FURNISHED BY DR. JOHN T. ZIMMER IN A LETTER TO DR. FOLLETT

I disapprove of neotypes, as indicated on another sheet. If they are adopted, their designation should be made only in a comprehensive review of the group concerned, should be approved by a special committee of experts in the particular field after advance notice through the Commission, and the neotype should be deposited in a public institution of recognised international repute. If a supposedly lost holotype reappears, it should be entitled to its original standing, regardless of dispositions made during its absence. This is one of the points that illustrate the illogical nature of neotypes. In attempting to fix the name on a new concept, some proponents are willing to admit that the rediscovery of the holotype may upset their conclusions, but are not willing to take the consequences. I maintain that if the name is unidentifiable, it belongs in the *nomina dubia* and is not entitled to association with another entity.

APPENDIX 4 TO DR. W. I. FOLLETT'S LETTER OF 21st JULY 1952

EXTRACT FROM THE PROCEEDINGS OF A SYMPOSIUM ON ZOOLOGICAL NOMENCLATURE RELATING TO THE QUESTION OF THE RECOGNITION OF NEOTYPES AS A CATEGORY OF TYPE SPECIMEN HELD BY THE PACIFIC SECTION OF THE SOCIETY OF SYSTEMATIC ZOOLOGY AT THE OREGON STATE COLLEGE, CORNWALLIS, OREGON, U.S.A., ON FRIDAY 20th JUNE 1952

SYMPOSIUM : *Problems of Nomenclatorial Practice Now Under Consideration by the International Commission.* W. I. Follett, presiding

(1) The Question of Whether, and Subject to What Conditions, the Concept of a " Neotype " Should be Officially Recognised in the *Règles*. Robert L. Usinger, University of California at Berkeley.

Dr. Usinger reviewed the historical definitions of the neotype, beginning with that of Kossman (1896) : " a topotype figured or described to replace a specimen which has been lost or destroyed," and later modified by to read : " a specimen, not necessarily a topotype, figured or described to replace a specimen which has been lost or destroyed." With this he contrasted the definition proposed by Hemming (*Bull. zool. Nomencl.*, 7, 1952 : 140) : " a final and irrevocable standard for the identification of a species in cases where there is no surviving type material or where the known surviving type material is insufficient for this purpose."

In the discussion that followed, Dr. G. F. Ferris agreed with Dr. Usinger that the first definition, as later modified, is the one most generally understood by systematists when the term " neotype " is mentioned, and that the definition proposed by Hemming was unwise, in that it opens new views and permits individual interpretations of what constitutes insufficient surviving type material.

Dr. M. W. de Laubenfels raised the question of neotypes of genera, which he believes are needed in his work on sponges.

Dr. J. S. Garth spoke in opposition to any requirement that neotypes be deposited in the institutions which had custody of the original types prior to their destruction. He pointed out that the west coast crustacena types of A. Milne Edwards, Stimpson, Lockington, and Cano were destroyed by a series of catastrophes, and that if Pacific coast workers were to be held to such a provision, they would be working almost exclusively for the benefit of institutions other than their own and in most cases remote from the present centres of activity on Pacific coast Crustacea. Dr. Ferris agreed that such a stipulation was unwise and unnecessary.

With respect to the feared exploitation of the neotype (Hemming, 1952 : 135) and the consequent expressed desire that the sole right to designate neotypes be vested in the International Commission, Dr. Martin R. Brittan inquired whether the Commission has a staff of specialists competent to adjudicate these matters. Dr. Usinger replied that, while the principle of consulting specialists is well established, the number of petitions is already great and the addition of the responsibility of designating neotypes would, in his opinion, seriously overload the Commission and its consultative machinery.

Concerning the proposed stipulations (Hemming, 1952 : 137, 138) that the neotype should conform to the original description and be from the same locality as the type, Dr. Usinger suggested that " the neotype be not inconsistent with the original description with respect to type locality, etc." He also was of the opinion that the law of priority would suffice in cases involving possible duplicate neotypes (Hemming, 1952 : 135).

Regarding the statement (Hemming, 1952 : 140) that the neotype, once established, should take precedence over all surviving type material, Dr. Usinger affirmed that there should be no surviving type material ; otherwise, there would be no necessity for establishing the neotype. The case of loss of the holotype with subsequent rediscovery was raised, Dr. Ferris being firmly of the opinion that a neotype proposed under these circumstances should lose its validity upon such rediscovery of the lost holotype.

Instead of the one year of public notice that would be required by Hemming (1952 : 141) before a neotype could be designated as such, Dr. Usinger proposed that a one-year period of protest be allowed subsequent to publication of a neotype designation. This proposal met with general approval among those present.

The proposal for the restriction of the type locality (Hemming, 1952 : 139) was discussed by Dr. Brittan, who raised the question of extinction of the species in the locality from which the lost type came, and its survival in some other locality. To this Dr. Usinger opined that the present trend was away from restricting type locality in the designation of neotypes.

The distinction made between official and unofficial neotypes and the implication that the latter would have no standing under the proposed new system (Hemming, 1952 : 146) drew forth some of the sharpest comment of the day. It was generally felt that to declare null and void all neotypes proposed before the date of inauguration of the new system would undo much

careful work by many competent specialists who have preceded their colleagues (and the International Commission) in recognising the need for neotypes. and in establishing them.

Although no vote was taken, it appeared to be the consensus of those present (1) that neotypes should be recognised ; (2) that if the original type were rediscovered, it should take precedence over the neotype ; (3) that the concept of neotypes should not be extended to supplement inadequate types, but only to replace lost types ; (4) that neotypes should not be subjected to the exclusive jurisdiction of the International Commission ; and (5) that the suggestions embodied in Dr. Usinger's critique of Mr. Hemming's views are generally acceptable.

JOHN S. GARTH,
Provisional Secretary.

DOCUMENT 2/27

By E. RAYMOND HALL
(*University of Kansas, Department of Zoology, Lawrence, Kansas, U.S.A.*)

Enclosure to a letter dated 22nd July 1952

No rules necessary ; any author who writes about a given species (or subspecies) in a taxonomic fashion will do well to designate precisely, by Museum Catalogue number or other appropriate means, a particular specimen that he considers representative of the name concerned if there is no holotype.

DOCUMENT 2/28

Statement of the views of the
AMERICAN COMMITTEE ON ENTOMOLOGICAL NOMENCLATURE
Enclosure to a letter, dated 24th July 1952, from
Professor CHARLES D. MICHENER, Chairman

Neotypes (Commission's Reference Z.N.(S.)358)

The neotype concept, originally confined to the replacement of lost types, should not be expanded to cover cases where existing type material is insufficient to provide a standard for the identification of species. Worthy though this might at first appear, it introduces a new subjective element into the picture because there will be differences of opinion as to the adequacy of most type material. One individual may find a type inadequate while another student may discover characters which make it adequate. The action of the " First Reviser " has sufficed in the past to take care of questions of this kind until or unless the type becomes identifiable with further study.

Museums are generally considered to be the rightful depositories for *all* primary types, it being generally agreed that such specimens, upon which scientific work has been based, are the property of science. Nevertheless, this is no more than a recommendation for holotypes, etc., and it is not clear that neotypes are in any way more sacred than holotypes.

Exploitation of neotypes could presumably be prevented just as well in the case of individuals as institutions (just as exploitation of the secondary homonym procedure can be prevented) by action of the International Commission. The difference between the present method of designating neotypes (by individuals) and the proposed method (exclusively by the International Commission) is that at present the individual taxonomist is provided with a procedure that he can use when he needs it, i.e. when he is doing the work. By the other method a formal petition must be submitted to the already overworked Commission. Under the present " unofficial " scheme the Commission would have to act only in the rare instances when actual abuses have been noted and have been submitted to it for adjudication.

Central authority is not needed to avoid competing and duplicate neotypes, since priority of designation is a perfectly satisfactory criterion in such cases ; no central authority should be charged with keeping the museums of the world under surveillance in order to ensure that adequate care is being taken of neotypes. No central authority need decide when to permit departure from original descriptions or original type localities if the Rules were simply to require that neotypes be not inconsistent in characters and type locality with the data provided in the original description.

The requirement that a full description and figures be provided when designating neotypes is fine, but is an " ideal " recommendation, and should not be a rule.

It should be realised that due to the fragile nature of most scientific specimens, nearly all original types will ultimately have to be replaced, in 100 or 1,000 years. Seen in this perspective, the procedure to be set up should be geared to regular *taxonomic practice* rather than to a central authority.

In view of the above comments, the American Committee on Entomological Nomenclature recommends the following rules, modified from those originally drawn up by Mr. C. F. Dos Passos.*

Definition. A neotype is a specimen designated to replace the holotype or the lectotype (both hereinafter referred to as the type) when the type is lost or destroyed.

Rules. After 1st January 195[?], an author may designate a neotype by complying with the following rules :—

A. The type must be lost, or destroyed, and evidence of that fact must be set forth in the publication containing the designation.

B. The designation of the neotype must be published and the neotype must be labelled as such by its designator.

C. Except for inaccuracies in descriptions, the neotype must agree with the original description and any published redescription of the type before its loss or destruction.

D. The neotype must agree also with the first published restriction of the species, even though not accompanied by a lectotype or neotype designation unless this restriction is at variance with the original description or locality.

E. The neotype must be from the original type series (i.e. from among "paratypes") if there is a surviving recognisable specimen in agreement with the first tenable restriction ; otherwise it must be (1) from approximately the same locality, if definite, as the type, or in indefinite, from a locality subsequently fixed, (2) taken at approximately the same season, and (3) of the same sex and host as the type, if any or all these facts are known.

F. If the type locality, as originally published, is shown to be false, the neotype must be from approximately the same locality as that subsequently fixed.

G. Neotypes shall not be designated *en masse*, but (except as provided under H below) in a revisionary paper only, to which the designation is relevant and material.

H. Nothing herein contained shall

(1) invalidate any neotype designation published on or before 31st December 195[?], in conformity with these rules and the burden of proving non-conformity shall be upon the author alleging that fact, but such neotype, if published in substantial conformity with these rules, may be republished in conformity therewith in a paper whether revisionary or not, and shall date from the time of the original publication.

(2) validate any neotype designation whenever published, if at any subsequent time the type is found.

*For the original proposals by Mr. Dos Passos see Document 2/13 (pp. 121-127).

I. After 1st January 195[?], a neotype not designated in accordance with these rules shall be null and void, and shall not prevent the subsequent designation of a neotype in accordance with the provisions hereof, but in such event the author shall set forth in detail the reason for claiming that the prior designation is invalid.

J. In the event that two neotypes are designated for the same entity, the first published shall be the valid neotype.

American Committee on Entomological Nomenclature.

CHARLES D. MICHENER, *Secretary.*

DOCUMENT 2/29

By J. CHESTER BRADLEY
(*Cornell University, Ithaca, N.Y., U.S.A.*)

Statement received on 25th July 1952

Neotypes (Reference Z.N.(S.)358)

I express in sequence my views on the three questions asked by the Secretary in paragraph **25** on page 147 of Volume 7 of the *Bulletin of Zoological Nomenclature.*

(**A**) I am strongly in favour of the recognition of neotypes. A contrary course would tend to block progress and precision. In fact while the Commission could withhold official recognition of neotypes, it would be unable to prevent zoologists from establishing them on the same basis that they have been doing.

(**B**) The draft plan is in general good ; but I think it goes too far in trying to establish an ideal.

It must be remembered that prior to 1948 the *Règles* did not recognise any category of type specimens for the fixation of a trivial name. In that respect they were very many decades behind zoological practice. It is only within four years that " neotype " has been any less official than " holotype," " lectotype," or " syntype." Nevertheless there is a distinction in principle between on the one hand " holotype and syntype " and on the other " lectotype and neotype." The former two are factual, being the individual specimen or specimens upon which the original author based his species. The latter involve selection by a subsequent author and therefore the application of judgment to restrict or interpret the intent of the founder of the species. It is appropriate that such selection and restriction or interpretation be restrained, if need be, by regulation.

I shall speak elsewhere of the need for doing this in connection with lectotype.

There is no compulsion (it may not even be desirable) to make the regulations for establishing a neotype more stringent than for establishing the holotype of a new species. Let us not establish a standard so strict that zoologists will not live up to it. I suggest that the provision that a neotype must be newly described (as an individual specimen) and figured be made advisory, not mandatory. As in the case of selection of a lectotype, there are just two things that are *essential* so far as public notice is concerned : (*a*) that the specimen selected as neotype and its labelling be so clearly indicated in a publication that it can be positively recognised by other workers as being the specimen designated, and (*b*) that the selector when doing so make clearly evident the taxonomic species with which he subjectively identifies the neotype. The method of doing this may vary with the circumstances. It should be left to the judgment of the selector. Sometimes it might be best done by publishing an illustration, but again it might be as well done and less expensively by referring to an already published illustration of the species. Certainly to have to publish a figure of *Papilio plexippus* in order to establish a neotype would be wasted expense, since adequate figures exist and can be referred

to, and since the taxonomic sub-species can be clearly identified without reference to any figure. A figure of a sub-species of *Ursus* might be of little use in establishing a neotype for the grizzly bear, but statement of locality and reference to the work of Merriam might be entirely definitive. If the selector cannot perceive the characters upon which authors may eventually rely to separate species or sub-species, the chances are that his illustration will not depict them. The neotype is always the court of last resort, in case questions of discrimination arise. Even if the selector completely fails to convey any idea of the actual taxonomic identity of the neotype, the case is no worse than those of thousands of holotypes of species that have been inadequately described and not restudied.

There exist innumerable ancient trivial names, with no known corresponding type specimens, the descriptions of which apply each to any of several well-known species, but which remain *nomina dubia* because of lack of evidence for applying them to any particular ones. In other cases such names are applied *by tradition* to a particular taxonomic species, but for no other reason. It will be a step toward security if systematists are encouraged to establish neotypes for such nominal species. Almost invariably nothing further would be desirable than to clearly mark and locate the specimen, and then to define the taxonomic species which it typifies in terms of already published work.

In permitting the establishment of such and other neotypes, the Commission will have to meet the problem of how to make sure that the selector has actually exhausted the possibilities of finding existing type material.

In the present world situation a policy will have to be adopted in regard to types that are (*a*) known to exist in or (*b*) may exist in certain or even all countries behind the iron curtain, where they are not available to western scientists. Would the Commission favour requests to establish neotypes in such cases ? Or would it find it a better policy to continue the names involved in them as *nomina dubia*, always with the hope that at some future time the type specimens in these countries may again be available for study ?

I will comment upon the numbered paragraphs in the draft plan : **7.** Agreed and important. **8.** Agreed. It would seem that what is desirable should be set forth in a Recommendation, in general terms, and that to do so would prevent many cases coming to the Commission that would have to be rejected or remanded for modification. **9.** Agreed. **10.** I agree to the necessity, but the proposal to authorise a central body (presumably the I.C.Z.N.) to decide what institutions are acceptable for preservation of neotypes is one that is likely, if adopted, to give rise to bitterness and especially to international ill-will. I once visited the national museum of a certain country. I noted that type specimens of insects had been virtually abandoned, were crowded into drawers of discards, with no recognition or indication of their status. Yet if the Commission were to veto locating neotypes of the fauna of that country in that museum it would be a tremendous blow to the pride of the nationals of the country. Another difficult question that will surely arise : Should it be permissible to locate neotypes in institutions behind the " iron curtain " ? The museums of Budapest, Stettin, Konigsberg, Dresden, Berlin, of Russia and of China are not accessible to specialists from the western world. I am far from enthusiastic about seeing the Commission assume such

responsibilities. Is it not enough to lay down in a Recommendation the conditions as to where neotypes ought to be placed and then assume that the author will act responsibly ? If it is deemed necessary for the Commission to decide, then I believe that as far as it could well go would be to submit a series of questions to the institution, asking whether it desired to become a custodian of type specimens in public trust, whether it is prepared to give them adequate permanent care and protection, and to make them available for study to all properly qualified zoologists ? I do not think that it would be wise for the Commission to look behind the face value of the answers. It would probably be desirable, if the plan is put into effect, to establish a list of accepted institutions. **11.** See above. **12.** The necessity is clear. I should like to inquire to what extent this would be carried in certain respects. (*a*) In case the sex of the existing holotype or lectotype is not determinable on the basis of taxonomic knowledge of the time, would it be deemed appropriate to replace it with a neotype of the opposite sex ? Would it permit substituting an adult neotype for the holotype of a species based on larva, in cases where the larva cannot be differentiated specifically, or where it has not been possible to determine correspondence between larva and adult ? What would be the attitude towards establishment of a neotype to replace a holotype on the grounds that the authorities of the institution that possessed the latter would not permit a dissection essential to determination, or would not permit adequate examination (some institutions are known to refuse to allow specimens to be removed from cases for close examination), or, as in the case of some private collections, would not permit any examination to be made ? In case a neotype is established to replace an existing holotype or lectotype, would it not be well to provide that it would have to become the property of the institution in which the replaced type specimen existed ? Otherwise abuse might arise. The establishment of a neotype could be a pretext to get the type away from some institution. The less cases of that sort that have to be met the better, for the Commission cannot be expected to serve as detectives. **14.** The principle could be established that a neotype should come from as near as possible to the locality where holotype or lectotype was collected, if known, or to the locality where some one of the syntypes was collected, and in no case should it come from an area where the species or sub-species that the original holotype or lectotype represents could only doubtfully have come from. **15.** I favour plan (*b*), with the further exception that it should apply primarily to those cases in which the neotype was established to replace a type believed to be lost and not to those where it was at the time known to exist. This for the reason that at times in obscure groups great harm can be and doubtless will be effected by the poor judgment of some systematist in attempting to establish neotypes ; yet we may apparently make out an excellent case for his intent, and if there is no other systematist familiar with the group, his views will not be challenged, but in later years systematists may discover the confusion that has resulted and apply to the Commission to remedy it. **16.** I do not know how to improve on this, and yet if there is only one systematist actively working on a group, it will be impossible to check upon the wisdom of what he proposes. **17.** Twelve months would be satisfactory. **18.** Agreed. It must be born in mind that a neotype is as necessary for a name that is a junior synonym, whether subjective or objective, of another, as for a nomenclatorially valid

name. Furthermore it might be well to recommend that in the case of a name that has never been in wide use, because never fully identified, the best way to dispose of it would be to establish the holotype or lectotype of an older nominal species as its neotype, where circumstances would permit. The effect, of course, would be to sink it as an objective junior synonym. **19.** See my remarks elsewhere concerning Article XXXI. I am not fully in accord with the Secretary's views at this point, unless a holotype or lectotype has been previously established and is now being replaced by a neotype. In such case I fully agree that the latter must be as precisely equivalent in value to the type that it is replacing as humanly possible, and above all things of the same taxonomic species, sub-species and form. But if the syntypes consist of a mixture of species or sub-species and no lectotype has been selected, the species has never been objectively defined. It would seem then to be adequate to recommend to the selector of the neotype that under normal circumstances he avoid choosing a specimen that represents a species or sub-species that someone has removed from the original. Circumstances can arise, however, under which just that would be the better course. For example, assume " a," " b " and " c " are syntypes of one nominal species *E-us y*, but " a " really belongs to one, " b " and " c " to a second taxonomic species; an author (without establishing a lectotype) notes that the description embraces two species, and establishes a new nominal species for specimen " c " (as evidenced let us say by the data on that specimen). Further assume that his action is quite overlooked and that all authors use the name *E-us y* in the sense of specimens " b " and " c," while the species represented by " a " is quite lost track of. In such a case clearly the desirable thing would be to establish specimen " b " or " c " as neotype of *E-us y*, and let the overlooked name *E-us y* fall as a synonym. It would surely be wise, however, to require that any zoologist proposing to select a neotype that represented a form or was the identical specimen that the work of some prior revisee had intended to remove from the species to state his reasons for so doing in asking the Commission to validate the neotype.

The *principle* involved here is like that of selection of a type species of a genus. It may often be wise to select one that has not been made the type of a later genus, but is not required. It is quite the old rejected principle of type by elimination.

The entire argument applies as the equal force to selection of a lectotype, which I discuss elsewhere, and it would seem desirable to deal with most details of selecting lectotype and neotype together and with identical provision.

I quite agree that the no longer necessary powers referred to in Section 19 should be repealed.

I also fully concur that neotypes and not figures are essential for precise definition. The unanswerable argument here lies in the fact that a figure can only depict what the artist chooses to show, while a specimen possesses every characteristic with which Nature has endowed it. Furthermore, figures may be and often are inaccurate.

I should carry this conclusion to the point of revising the regulation concerning holotype, ruling out an illustration altogether; and requiring that

in the case of every species based only on a figure, a neotype must be established before complete objective definition is possible. This does not preclude the fact that species exist which may have no type specimen, but that are so completely known that no type specimen would be of any practical use, domestic animals for example, the human species, etc. Complete objectivity becomes unnecessary.

20. Agreed to, with limitations previously set forth. With the innumerable cases that may arise, I do not think that it will be possible for the Commission to assure itself of these matters from first hand knowledge, or to do more than assure itself that the would-be selector has made an honest effort to solve each problem in the manner most suitable to the individual case, and that no strong dissenting opinion exists. The unfortunate thing is that in many cases no opinion would develop one way or another, perhaps for years, until some other worker began a critical study of the genus concerned.

21, 22 and **23.** Agreed, with some limitation as previously expressed.

24. It does not seem desirable to have two classes of neotypes. It would seem desirable that the official recognition of a neotype should be signalised by some such notation as the Secretary suggests. I believe the proper course is to recommend specialists to recognise and abide by neotypes that have been in the past *published* as established, where there is no serious reason for an opposite course, but at the same time to urgently request them to bring all such selections before the Commission for official confirmation as rapidly as possible.

The Commission should be directed to accept all such previously published neotypes unless there should be strong cause in a given case for not doing so, and not to attempt to apply the several regulations so strictly to them. It must be remembered that these have had the sanction of custom, and prior to 1948 were on the same plane as holotypes, in that neither were recognised by the *Règles*. It would cause quite a furore if the Commission were some day to decide that no holotype had any status until accepted by the Commission, and then try to apply that regulation to the past.

(**C**) Except as noted above, there are no questions not dealt with in the draft plan, that appear to me to require inclusion in the *Règles* in connection with this subject unless perhaps in answering Dr. Frizzell's question about the terms neotype, neoholotype and neoparatype it should become desirable to state that :—

A neotype is a single specimen selected to replace a holotype or a lectotype that has been destroyed or that is believed to have been destroyed, or which is inadequate to permit specific and subspecific determination. The term neotype also applies to a single specimen selected to serve instead of a holotype in case no holotype has ever existed, no lectotype has ever been chosen, and no syntypes exist from which a lectotype can satisfactorily be chosen.

The term neoholotype is rejected as synonymous with neotype.

The term neoparatype if useful to taxonomists is not nomenclatorially objectionable. As such a specimen cannot objectively determine the application of a trivial name, no provision for it is made in these *Règles*.

Annexe 1

SUPPLEMENT TO PRECEDING REMARKS

8. I do not accept the conclusion (last sentence in paragraph 8) that there must be a central authority. I believe that a plain statement of what is desirable and of abuses that should be avoided is adequate. Then the case of any neotype established in flagrant abuse of the proprieties, as thus set forth, could be brought before the Commission for review. Such cases would be few, and could easily be handled. It is not practical for the Commission to handle *all* cases.

20. The preceding paragraph applies more widely here. The longer I consider the matter the less practical does it seem for the Commission to undertake to act on all neotypes. Only the author can know and visualise the taxonomic and anatomical facts—the Commission can only accept or reject the views of others. The *best* results will come from clearly stating everything that is desirable and all that should be avoided, then from letting each author use his own judgment. If he decides to establish a neotype all that he need then do is publish what is required, register the neotype, and receive the assignment of an official number. The Commission will then have only to consider those cases where abuses or faulty judgment raise the question as to whether the neotype concerned should be cancelled.

12. I believe that at the present time it would be unwise to recognise neotypes created to replace an imperfect extant type, or one which is of a sex, stage or form that taxonomists are unable to specifically identify. Discussion on this matter could be invited pending the next Congress after Copenhagen. But I think that a clear demand should arise before provision is included in the *Règles*. As a first step the Commission might be given power in exceptional cases, to deal with names that remain *nomina dubia* because the type, though known, gives no clue to the taxonomic identity of the species. In cases where no systematist who has examined the type claims to be able to positively recognise it, and no one raises taxonomic objection, the Commission might set aside the holotype or lectotype and establish a neotype. In doing this they should be required : (*a*) in case the name is in current use, to establish a neotype in accordance with such usage, or (*b*) in case the name is not in current use, either to sink it as an objective synonym of an older name, by establishing the holotype or lectotype of the older name to be neotype of the name in question, or (under their plenary powers) to suppress the name, if there is no older name with which it could be appropriately synonymised.

Annexe 2

PROPOSED RULES FOR NEOTYPES*

(Reference Z.N.(S.)358)

Definition : A neotype is a specimen identified with a species already described and selected as a standard of reference to replace the lost or destroyed holotype, lectotype or prior neotype of that species. In cases where no holotype was originally designated, no lectotype ever selected, and no syntypes remain from which a lectotype may be selected, the neotype serves in lieu of a lectotype. In any case where the International Commission on Zoological Nomenclature cancels the status of a holotype, lectotype or neotype, that shall be considered the equivalent of its destruction.

Tentative Establishment : A specimen receives tentative status as a neotype only when notice of its selection is published under conditions of publication specified in Article 25 of these *Règles*, and provided further that the following conditions are adhered to :—

(*a*) that the author states his reasons for believing the holotype, lectotype or all syntypes to be destroyed or lost, and in the latter case what measures have been taken to find them.

(*b*) that the neotype is, or at time of selection becomes, the property of a public institution, the name of which is given, or is placed on permanent loan in the custody of such institution.

(*c*) that the specimen be so identified that it can be unmistakably recognised as the neotype. All labels that it bears should be indicated.

(*d*) that the author states his views as to the taxonomic status of the neotype.

(*e*) that if the neotype is to replace a lost lectotype, and syntypes still exist, it shall be chosen from among the syntypes, or the author shall demonstrate either that in his view no existing syntype is of the same taxonomic species as the lost lectotype, or that for some reason it would be futile to establish any one of them as neotype.

Final Establishment : During a period of twelve months following publication of notice of selection of a lectotype the selector may publish a statement withdrawing such selection ; or during the same period any taxonomist finding the selection unsuitable may refer the case to the Commission for decision. If no such action occurs within the prescribed period, the case shall be deemed closed.

If it is impractical to secure actual publication of the notice of withdrawal within the twelve-month period, submission of the manuscript to an editor within that period shall be considered to satisfy the requirement provided

*These are not offered as final or perfected rules, but merely as illustrative of my personal present conclusion as to what is wise at the present time. In reaching them I have been influenced by the views of Messrs. Dos Passos, Usinger and Sabrosky.

notice is published showing the date of submission to have been with the period, a dated copy of the manuscript is submitted to the Secretary of the Commission and actual publication occurs within a further period of twelve months.

Subsequent to the elapse of the above-mentioned first twelve-month period, changes in the status of a specimen selected as a neotype can only be made by the Commission.

Recommendation : Any taxonomist finding a neotype selection unsuitable is urged to correspond within the twelve-month period with the selector, if at all possible, and to endeavour to reach agreement as to the most suitable selection. He should apply to the Commission only in cases where such a course is not practical or agreement cannot be attained.

Priority in Neotype Selection : If two or more specimens are each designated neotype of one nominal species, the ordinary rules of priority shall obtain, each selection dating from the time of its first publication under the preceding rules.

Neotypes Not Objects of Commerce : Neotypes are not subject to sale or barter, except as between public institutions. If it shall be brought to the attention of the Secretary of the International Commission on Zoological Nomenclature that a neotype has been sold or offered for sale or barter by a private individual or a commercial firm, he shall publish in the *Bulletin of Zoological Nomenclature* notice of the automatic cancellation of the status of that specimen as a neotype, without requiring action of the Commission.

Rediscovered Type Material : If type material believed to have been lost or destroyed is rediscovered subsequent to the final establishment of a neotype, it shall automatically replace the neotype. The Commission, upon application, may reinstate the neotype if circumstances render such action desirable, as, for instance, a threat to continuity of established usage. (The wording employed in this section has been suggested to me by Mr. C. F. Dos Passos.)

Recommendations : Individual cases vary in nature to such a degree that the following recommendations cannot be made obligatory. Nevertheless the selector of a lectotype should adhere to each of them unless there is compelling reason for not doing so, in which case he should explain his reasons. Failure to adhere to any one of them may, in appropriate circumstances, be deemed adequate reason for cancellation of a neotype by the Commission.

(*a*) *Locality :* When the precise locality from which the original holotype or lectotype originated is known, subject only to the availability of material, a neotype should be selected from specimens collected from as near to that locality as possible. *In no case may a neotype be selected from a locality which the selector suspects may be outside of the natural range of the species, or nomino-typical sub-species when the species is divided.*

(*b*) *Characters :* The neotype must agree with the original description and any published redescription of the type in all respects that the selector deems of specific or subspecific significance. If the species has as originally proposed been subsequently revised and restricted (even without lectotype designation) the neotype should ordinarily similarly agree with the restricted description.

(*c*) *Sex, Form, Host, etc. :* When the sex, stage, form, etc., of the lost holotype or lectotype are known, and these matters are of significance, the neotype should be equivalent, unless that would destroy or reduce its utility for specific diagnosis. In the case of parasitic species, it is ordinarily desirable that the neotype should have the same host as the original.

(*d*) *Who Should Designate Neotypes :* Neotypes should be designated only by taxonomists engaged in revisionary work on or similar special study of the group concerned ; they should never be designated as part of curatorial routine.

(*e*) *Institution in Which a Neotype Should be Placed :* The selector of a neotype should exercise precaution to make sure that the institution to which the neotype will belong or in which it will be placed on deposit has adequate facilities for the care of type material, and provision for its study by competent taxonomists. If the holotype or lectotype was in the custody of a particular institution the neotype should be placed in the same institution, unless conditions strongly contra-indicate.

(*f*) *Agreement on Neotypes :* A taxonomist intending to designate a neotype should confer with other taxonomists actively working on the group concerned, if any, in order that agreement on the best selection may be attained in advance of publication.

(*g*) *Search for Missing Type Material :* A neotype should be selected only after the fate of all type material has been accounted for, or an exhaustive study convinces the selector that it is hopelessly lost.

(*h*) In indicating his view as to the taxonomic identity of the neotype, the selector should either describe or figure it, or identify it with a description or figure of a species previously published.

Date Rules Become Effective : These rules concerning neotypes become effective upon the date of their adoption by an International Congress of Zoology. Neotypes published prior to their adoption shall be presumed to have been valid as from the date of their publication, but any taxonomist convinced that any such neotype should be cancelled may present his reasons to the International Commission for decision.

DOCUMENT 2/30

Statement of the views of the

ENTOMOLOGISCHE GESELLSCHAFT, BASEL

Extract from a letter, dated 30th July 1952, from M. HENRY BEURET

(Note :—The numbers cited in the following statement are the numbers allotted to the paragraphs in the paper on the subject of neotypes by the Secretary to the International Commission on Zoological Nomenclature published in March 1952 in Double-Part 5/6 of Volume 7 of the *Bulletin of Zoological Nomenclature*.)

Vol. 7, Parts 5/6

No. **1-6.** Rien à remarquer.

No. **7-14.** Nouse sommes d'accord avec la création de " néotypes," aux conditions suivantes :—

1. qu'ils correspondent autant que possible à la description originale, éventuellement à la figure origininale ;
2. qu'ils proviennent si possible de la " type locality " (qu'ils soient donc des topotypes) ou d'un biotope correspondant a la " type locality " et pas trop éloigné de cette dernière ;
3. qu'il soit exclu que l'on puisse établir des neotypes pour des raisons lucratives ;
4. que l'établissement de néotypes soit subordonné à l'autorisation d'un office central qui devra établir une liste officielle des néotypes et la compléter au fûr et à mesure ;
5. que les néotypes soient déposés dans un muséum et accessibles aux spécialistes, comme vous le proposez ;
6. *qu'aucun néotype ne puisse être établi avant qu'un Congrès international ait fixé éxactement les conditions sous lesquelles un néotype pourra être établi.*

No. **15.** Acceptons l'alternative *b.*

No. **16-23.** Rien à objecter.

No. **24.** Les *néotypes non officials* créés jusqu'au moment où des néotypes officiels seront admis devraient, pour autant qu'ils aient une raison d'être, être *transformé en néotypes officiels.*

No. **25.** Question 1 = oui
2 = voir remarque : ci-dessus
3 = non.

DOCUMENT 2/31

By W. E. CHINA, M.A., D.Sc.
(*British Museum* (*Natural History*) *London*)

Ref. Z.N.(S.)358

(1) Extract from a letter dated 20th August 1952

I am not in favour of the recognition in the *Règles* of the concept of neotypes as a category of type specimen.

(2) Extract from a letter dated 19th September 1952

If neotypes are recognised officially I should certainly be interested in the discussion to ensure the maximum of safeguards against abuse of the regulation. I particularly agree with your suggestion that when types are destroyed the museum suffering the loss should have the first right to fix neotypes. We must ensure that the commercially minded individual is not allowed to establish neotypes wholesale with a view to their sale at some later date or that some very active museum curator should not be allowed to build up his collection by establishing hundreds of neotypes of species of which he knows the types to have been lost or destroyed.

DOCUMENT 2/32

By H. B. WHITTINGTON

(*Department of Invertebrate Palaeontology, Museum of Comparative Zoology at Harvard College, Cambridge, Massachusetts, U.S.A.*)

Enclosure to a letter dated 26th August 1952

RECOGNITION OF NEOTYPES

While I have in my published systematic work proposed two neotypes, I consider now that this step was probably ill-advised. As you point out, in fossil species the need for a neotype arises when either the type material is lost or when it is too incomplete for a full description. The need seems great when the species has been designated as type of a genus. However, there is so much uncertainty about the selection of a neotype of a fossil species—whether it is from the original locality and horizon—that I consider it best no longer to use the name of a species of which the type material is either lost or inadequate. I consider this especially advisable if the species is a type. I, therefore, join my entomological colleagues in this museum* in urging that neotypes should not be recognised and that no provision be made in the *Règles* for such recognition.

DOCUMENT 2/33

By K. H. L. KEY

(*Commonwealth Scientific and Industrial Research Organisation, Division of Entomology, Canberra, Australia*)

Extract from a letter dated 4th September 1952

(Note :—The main portion of the above letter was concerned with the problem of the emendation of names, on which a separate note has been submitted by Dr. Key and which is one of the documents included under Case 5 in the Copenhagen Series.

I have studied your proposals in connection with the other six questions referred to you by the Thirteenth Congress, and in general I find myself in hearty agreement with them.

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*See Document 2/10 (pp. 116-117).

DOCUMENT 2/34

By J. BALFOUR-BROWNE, M.A.
(*British Museum (Natural History) London*)

Enclosure to a letter dated 25th September 1952

On the Question Whether " Neotypes " Should be Recognised in the " Règles " as a Category of Type Specimen

Vol. 7, pp. 131-147

7. Agree that neotype should be deposited in a museum or other public institution.

8. Agree.

9. The duplication of neotypes could be prevented by the definition of what constitutes a neotype—which should be a single specimen which is to be accepted as the type specimen of a species of which the original type (holotype) specimen has been lost or destroyed.

10. Agreed.

11. If an adequate description of the lost or destroyed holotype specimen already exists and a specimen is designated as a neotype it must accord with the original description as nearly as possible as is envisaged in *13 of your paper. A further full description would seem to be supererogatory.

12. I would only agree to the designation of a neotype if the holotype or lectotype was completely lost or destroyed. Any other ground would be dangerous as, for example, due to an erroneous determination of sex of a partly defective specimen. A faulty examination might lead to the conclusion that a holotype was a defective female whereas it was actually as more careful study showed a partly defective male which still possessed the truly definite characters of the species. This could lead to a totally wrong conception of species, and if a neotype is created under these circumstances the situation is insupportable. There is also the case of a holotype being entire but in such fragile condition that any attempt to remount it might be disastrous, but it might be possible to obtain the essential characters by means which broke up the specimen—this would *not* justify creation of a neotype.

If a figure of the essential specific characters (e.g. aedeagus) of a destroyed holotype is extant that figure should be accepted as the neotype even if it is only a portion of a specimen.

13. Agreed, see 11 above.

14. This is not always possible. A Fabrician species might be from the West Indies without specifying which. Agreed that it should, *if possible*, be from the same locality or horizon.

15. As I disagree that a neotype and holotype or lectotype can be in existence at the same time I can only agree in part—that a neotype will take the same precedence as a lost or destroyed holotype or lectotype possessed and will immediately lose that precedence if a " lost " holotype or lectotype is re-discovered even if this should necessitate a change in conception of a species.

16. I agree with the need for the publicity suggested, but would regard it as essential if a full description of a neotype is required to replace any inadequately described lost or destroyed holotype that the description must be published with the application or it would be impossible for interested specialists to express an opinion on the merits of the application.

17. Agreed.

18. This would be covered by 16 above.

19. Clearly essential, but I would not at any time agree to the setting aside of any decision of the Commission under the circumstances quoted for *Papilio plexippus* Linnaeus, 1758.

The power of decision should clearly be irrevocable.

20. If an application for the designation of a neotype *must* be made to the Commission it is clear that the Commission alone is competent to give a decision and is therefore in possession of the exclusive right desired.

21. No comment.

22. Agreed.

23. Agreed.

24. No. All neotypes " unofficially established " at the time of the introduction of the revised *Règles* should be submitted for verification under the agreed procedure. A rejected " unofficially established " neotype would automatically lose all type status just as much as a specimen proposed under the *Règles* as suggested but which is rejected by the Commission. If any application to the Commission for designation of a neotype ignored an " unofficially established " neotype it is extremely likely that the publication of the application would expose the oversight. The suggestion that there can be an officially established and an unofficially established neotype coexistent is insupportable.

DOCUMENT 2/35

By THERESA CLAY, B.Sc.
(*British Museum* (*Natural History*), *London*)

Neotypes (Ref. Z.N.(S.)358)

See *Bull. zool. Nomencl.* **7** (5/6) : 133-146. 1952.

1. I am in favour of the recognition in the *Règles* of the neotype as a category of type specimen.

2. I am in general agreement with the draft plan submitted in pages 133-145 with the following comments on alternative suggestions.

Paragraph **8,** p. 135.

I agree that it is quite impracticable to make it essential to select neotypes from material possessed by the institution in which the original type material had formerly been deposited, nor do I think that it should be a proviso that

the neotype must be deposited in the above-mentioned institution, but it might be recommended that a neoparatype (if there is such a category) should be, where possible, presented to the original institution.

Paragraph **12,** p. 137.

I agree that a neotype should be erected even where part of the original type material is in existence, if this is unrecognisable. There is also the case to be considered where the holotype belongs to a sex, say female, of a species which is at the present time only recognisable in the male.

Paragraph **14,** p. 138.

In the case of parasites it may be essential to ensure that the neotype is from the same subspecies of host. Now that the trend in bird systematics is to widen the concept of subspecies so that many forms formerly recognised as species and with distinct species of parasite, are now considered as subspecies. It is therefore important that the same subspecies is selected as host of the neotype. On the other hand there are cases where the host form is only of doubtful subspecific value and in this case the neotype could be taken from a closely related subspecies. This is a point which could presumably be settled by the specialists in the subject when any given neotype was put up for consideration.

Paragraph **15,** p. 137.

I think it is most important that (*a*) should be put into practice, that is that once a neotype has been established, all surviving type material known or unknown should be deprived of its status as such.

Paragraph **19,** p. 142.

This I think is most important, namely that the selection of a specimen for neotype does not run counter to any previous restrictions or restricted identifications.

Paragraph **24,** p. 145.

I consider that the present unofficial neotypes, if they fulfilled the requirements for the establishment of neotypes, should take precedence over an application by another author for the establishment of a neotype for the same species, even if the unofficial neotypes had not yet been put before the Commission. It would have to be declared to the Commission during the proposed 12-month period, in the same way as type material believed to be lost must be declared.

DOCUMENT 2/36

Statement furnished by the AMERICAN SOCIETY OF PARASITOLOGISTS

Extract from a letter dated 8th September 1952

The American Society of Parasitologists at its meeting in November of 1951 appointed a committee to investigate the controversy that arose following the announcement that " far-reaching decisions in regard to zoological nomenclature (had been) taken by the Thirteenth International Congress."

In undertaking its assignment the *Bulletin of Zoological Nomenclature* was studied and the requests for advice in Volume 7 were noticed. The committee reached a unanimous decision on only three points.*

(2) The Committee does not feel that the recognition of lectotypes and neotypes should be designated to the International Commission because such a function involves more than a decision on purely nomenclatorial issues.

In submitting these comments to you the Society wishes to express its gratitude to you and the entire International Commission for the considerable effort that has been expended in behalf of zoological nomenclature.

Signed for the Society by its Committee.

ALLEN McINTOSH.
D. H. WENRICH.
G. W. WHARTON, *Chairman.*

*The other Resolutions referred to here are reproduced at the appropriate points in the Copenhagen Series.

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